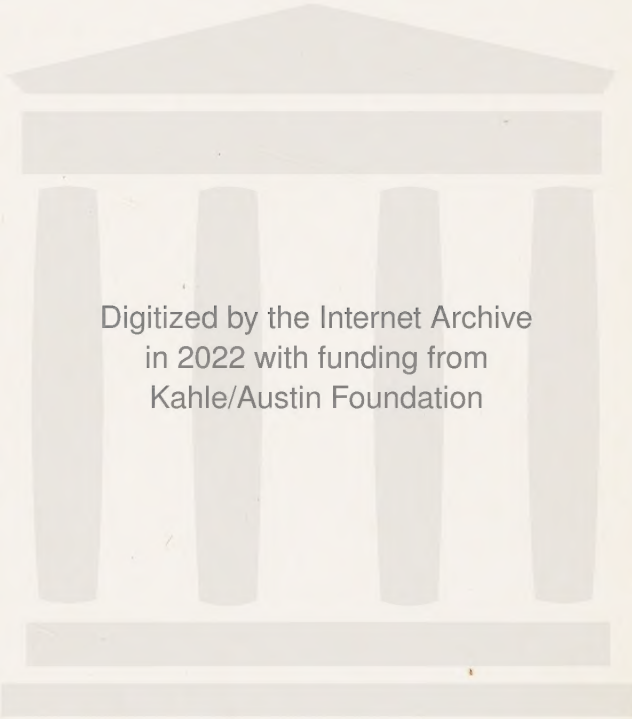


**NONCOMMISSIONED
OFFICERS' MANUAL**

Corporal Glenn Andersen.

Sgt. Glenn Andersen.
W. 78th Inf.

Sgt. J. P. W.
78th Inf.
Camp Winston
Kansas



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*Sergeant Glenn Anderson
24, 70th Infantry Kansas*

Noncommissioned Officers' Manual

By COLONEL JAS. A. MOSS

United States Army

(SECOND, REVISED EDITION)

(Printed July, 1917)

Being a manual consisting of a compilation in convenient, handy form, of matters of a practical, worth-knowing nature—things of value and assistance to the inexperienced as well as to the experienced noncommissioned officer.

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Dedication

This Manual is dedicated to the Noncommissioned Officers of the Army of the United States, — the men who occupy positions of such importance in the military service of the Country that they are often referred to as "The backbone of the Army."

Jas. A. Moss.

Camp Gaillard, C. Z.,

May 9, 1917.

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CHAPTER I

GENERAL CONSIDERATIONS

1. Importance of the position of noncommissioned officer. The average noncommissioned officer does not fully realize the importance and responsibility of his position.

The importance and responsibility attached to the position of noncommissioned officer by the War Department is well shown in the 68th Article of War, which authorizes noncommissioned officers to order officers into arrest in case of "quarrels, frays and disorders," and prescribes that any officer who disobeys such noncommissioned officer will be punished as a court-martial may direct.

The Colonel of the Regiment recognizes the importance and responsibility of the office of the noncommissioned officer when in the noncommissioned officer's warrant of appointment he says, "I do strictly charge and require all noncommissioned officers and soldiers under his command to be obedient to his orders."

In garrison and in the field, in camp and on the march, in peace and in war, the noncommissioned officer occupies a most important position and plays a most essential part in the success or failure of a command. Experience has shown that the efficiency, discipline and reputation of a command depend to a great extent on its noncommissioned officers. In fact it is often said, "The noncommissioned officers are the backbone of an army."

Remember, the position that a noncommissioned officer occupies in the eyes of his comrades,—the extent to which he commands their respect and inspires their confidence,—depends entirely upon the noncommissioned officer himself, who, in fact, makes his position in the eyes of his comrades whatever it may be.

The noncommissioned officer, for instance, who always does his duty and requires others to do the same, will always command respect, admiration and obedience, while the one who fails to appreciate the responsibility of his position,—the one who gambles with privates and does other things not in keeping with the dignity of his office,—not only fails to command respect, but he also fails to inspire confidence.

The sense of satisfaction experienced by the noncommissioned officer who appreciates the responsibility of his position, who does his duty faithfully and loyally, and who, as a result, knows and

feels that he has the respect and admiration of his fellow-soldiers and the confidence and good-will of his officers.—such a sense of satisfaction is something that riches can not buy and it means everything to the man of true soldierly instinct.

2. Noncommissioned officers to guard the dignity of their office. Every noncommissioned officer should guard the dignity of his office by resenting promptly and emphatically any disrespectful action or language on the part of those under him, and he should at once report all such cases to his superior. This is something he owes the office he fills.

3. What the appointment of a noncommissioned officer means. When a company commander recommends that a private be appointed a noncommissioned officer, and when the regimental commander so appoints him and gives him a warrant "Reposing special trust and confidence in his patriotism, valor, fidelity and abilities," it means that the man's Captain and the man's Colonel have picked him out and have pointed him out to his comrades as a man in whom they have confidence,—a man they believe will "make good."

The man's Captain and his Colonel have changed his status from that of a follower to that of a leader of men.—they have made him conspicuous amongst his comrades.—and by having thus vested in him certain authority and responsibility not enjoyed by other enlisted men, they have, so to speak, thrown him into deep water.

Now, what are you, Mr. Noncommissioned Officer, going to do? Are you going to sink or are you going to swim,—“make good”?

Of course, if you are made of the right stuff, you are going to swim,—you are going to do all in your power,—you are going to endeavor with all your might, with all your soul, to show your comrades, your officers and the rest of the world that the confidence reposed in you by your Captain and your Colonel was not misplaced. You will leave no stone unturned to “make good.”

4. How to “make good.” But what must a noncommissioned officer do in order to “make good”?

He must make himself useful to his superiors and he must command the respect and inspire the confidence of his comrades. This he may do as follows:

(a) *Efficiency.* First of all, he must be *efficient*,—he must be on to his job,—he must know his drill, his guard, outpost, patrol and other duties. It is a basic, fundamental principle of human nature that no man who is inefficient,—who is ignorant of what he is sup-

posed to know,—can command respect or inspire confidence. In any walk of life such a man is not taken seriously. He is either looked upon with pity, ridicule or contempt. People call him a “boob,” a “mutt” (“mutton head”).

The noncommissioned officer who is ignorant of his duties is looked upon by his comrades as a “joke,”—he is regarded as a soldier “boob,” a military “mutt.”

Hence, the first and constant aim of the noncommissioned officer must be to learn and know all his duties,—everything he is expected and supposed to know,—and this he can only do by study and application, *by work*.

Efficiency does more than anything else in this world to inspire confidence.

In time of war a noncommissioned officer is often placed in a position where he is responsible for the health, comfort and lives of his men, and the ambition of every noncommissioned officer should, therefore, be to so qualify himself by work and study that he will be able to instruct his men in all their duties and look after them properly in garrison, in camp, on the march and in battle.

Have you ever stopped to think that any mistake due to inefficiency, ignorance or other cause, which a noncommissioned officer may make in battle, will be paid for in human blood?

What would you think of an inefficient pilot trying to pilot a boat loaded with people; or, of an inefficient engineer trying to run a train loaded with passengers? You would, of course, think him criminal, and in case of loss of life through his inefficiency, you would consider him a murderer,—that's what the law would consider him,—but do you think that such a man would be a greater criminal or murderer than the noncommissioned officer who, through ignorance and inefficiency, is not capable of leading his men in battle and thereby unnecessarily sacrifices the lives of those under him?

Ask yourself in confidence this question: *Am I really qualified to lead men in battle,—have I done everything in my power, everything I could and should, to qualify myself to do so?* And then answer the question without trying to fool yourself or anyone else.

Remember that everything you do in time of peace—all the training and instruction you receive—is done with but one object in view: *To make you efficient and qualify you for your duties in time of war.*

4 (contd.)

(b) *Initiative*. Exercise initiative—*do things without being told*. When your judgment and common sense tell you a thing ought to be done, do it.

Remember what the Field Service Regulations say about exercising initiative in campaign:

“Officers and men of all ranks and grades are given a certain independence in the execution of the tasks to which they are assigned and are expected to show initiative in meeting the different situations as they arise. Every individual, from the highest commander to the lowest private, must always remember that inaction and neglect of opportunities will warrant more severe censure than an error in the choice of means.”

The same initiative enjoined in campaign by the Field Service Regulations, should be exercised in garrison and everywhere else. For instance, knowing the wishes of your superior regarding a certain matter, do everything in your power, *without being told in each case*, to see that the wishes of your superior are carried out. For example, if you know that your company commander wishes to have certain work done a certain way or finished by a certain time, then, without being told about each and every thing that comes up, do everything in your power to carry out the wishes of your company commander.

It is, of course, as a rule, impossible to give orders that will cover everything that may come up. Always bear in mind what your superior wishes to have done, and when anything unexpected comes up, use your head and initiative and do what your judgment and common sense tell you will help carry out the wishes of your superior.

(c) *Promptness*. Always act promptly, never putting off until to-morrow what can be done today. *Get into the habit of being prompt*. Whenever told to do a thing, start to do it at once—just as soon as you possibly can—and keep at it until you have finished it.

(d) *Obedience*. Of course, a noncommissioned officer must be absolutely obedient—he must obey promptly and fully all orders and instructions received from superiors.

Whether or not you like or approve of an order is neither here nor there. Your business as a soldier, and especially as a noncommissioned officer, is to obey all orders, and to do so willingly, faithfully and promptly, *without excuses or explanations*.

Remember that nine times out of ten the superior giving the order knows more about the matter than you do and is probably in possession of information that you know nothing about. If a superior makes a mistake in giving an order, it is his lookout, not yours.

(e) *Loyalty.* It goes without saying that noncommissioned officers should be loyal to their officers. The officer is entitled to the loyalty of his noncommissioned officers and the noncommissioned officer of true soldierly instinct never hesitates about according his officers full support.

(f) *Punctuality.* Punctuality is one of the cardinal requisites of a good soldier. Cultivate the habit of being punctual—make it an invariable rule always to be at the appointed place three or four minutes before the time ordered. *Get into the habit of being punctual.*

(g) *Perseverance.* When directed to do a thing, if you can't do it at first, do not at once report you can't do it, but *try some other way, and keep on trying some other way* until you have either succeeded or have exhausted every possible means you can think of. *It is really astonishing how comparatively few things in this world can not be done, if one really wants to do them and tries hard enough to do them.* "Stonewall" Jackson used to say that any man can do anything that he *really* wants to do.

Take pride in being able always to do, and do well and efficiently, whatever task you may be given by a superior—take pride in being known amongst your comrades and amongst your officers as a man who can always "deliver the goods."

5. Get into line or get out. However, if a noncommissioned officer will not take an interest in his office—if he will not make an effort to become efficient, to "make good"—if he has no sense of pride, no feeling of self-respect—then in fairness to the company and in justice to the Government he is *supposed* to be serving, there is one thing for him to do: go to his Captain and say this to him—

"Captain, I have come to you to acknowledge myself a failure. I have failed to 'make good.' Yes, I have failed to justify the confidence that the Captain and Colonel placed in me. I would, therefore, ask that I be reduced to the grade of private."

6. Why a soldier is made a noncommissioned officer. Have you ever stopped to ask yourself: Why was I made a noncommissioned officer?

Of course, you were not made a noncommissioned officer just to wear chevrons, to draw increased pay, or to adorn the office. You were made a noncommissioned officer for the sole purpose of *assisting* your company commander in the government and administration of the company—for the purpose of playing a certain part, of being a *live and active factor* in the government and administration of the company. That is the only reason in the world why you were ever appointed a noncommissioned officer—why certain authority not

exercised by other enlisted men was vested in you and why you are drawing increased pay.

7. Office of noncommissioned officer not an easy one. The office of noncommissioned officer is not an easy one, if one does his full duty.

To know everything that a noncommissioned officer should know, and to be able to do *efficiently* everything that a noncommissioned officer should do—that is, to meet *efficiently* all the requirements of orders and regulations and to perform *efficiently* the natural, logical duties of his office—is no child's play. On the contrary, it is a man's job that requires work, patience, study, application, intelligence, and judgment.

8. What is there for a soldier in the position of noncommissioned officer? While, of course, in the present form of society money means a great deal, and the increase in pay and allowances attached to the position of noncommissioned officer are very desirable, they do not, as a matter of fact, mean as much as the natural satisfaction and gratification that the normal man experiences in being selected from amongst his fellow-men by a superior, who thus shows his estimation of the man and his belief and confidence in his ability to "make good."

The man who is not pleased and gratified with the goodwill and good opinion of his fellow-beings, especially his superiors in life, has something lacking in his nature.

Also, the normal man experiences satisfaction in exercising authority, even though it be limited, and the position of noncommissioned officer carries with it authority.

Again, the normal man takes a natural pride in being a leader amongst his fellow-men, and the noncommissioned officer is a leader of those under him.

Leadership is one of the foundation stones of the military profession and the soldier who does not take pride and satisfaction in leading others lacks the true military instinct and has no more business in the Army than a fish has on dry land.

9. Prepare yourself to be an officer in case of war. It should be the ambition of every noncommissioned officer, from the junior corporal to the senior sergeant, to fit himself to be at least a lieutenant in case of war.

While it is true that during time of peace opportunity for advancement is comparatively limited and the greatest reward the noncommissioned officer gets for the efficient, soldiery performance

of duty, is the satisfaction that comes from the consciousness of duty well done and the consciousness of the fact that he has earned the respect and confidence of his officers and comrades—while this is true, it is also true that during time of war the opportunity for advancement and promotion is almost unlimited.

Napoleon used to say, "Every private carries in his knapsack a Field Marshal's baton"—that is to say, it was possible for any private in his army to rise to the highest military position within the gift of France. Just think with how much greater force this statement of the great Napoleon applied to the noncommissioned officer and also to what extent it expresses the possible advancement and promotion within reach of every noncommissioned officer in time of war.

It was George Washington who said, "In time of peace prepare for war." And so should every noncommissioned officer worthy of the stripes he wears do everything he can, by hard work and honest endeavor, to prepare himself in time of peace to be an officer in time of war, when his country will need his services the most.

10. Control your temper. Some men have a very unfortunate way of showing temper, irritation, or displeasure whenever told to do a thing that they do not like, at times even going so far as to "talk back" by way of excuse, explanation, or resentment. This is unsoldierly and unmilitary—it shows a disrespectful, insubordinate spirit that is sure to get the man into trouble.

School yourself to control yourself—it will avoid you trouble. Learn how to calm and compose yourself and not flare up and show your displeasure and discontent to your superiors—it will save you punishment and save your superiors trouble.

Self-control in all matters is one of the first lessons that a soldier must learn.

In military life, the same as in every other walk of life, it is impossible to please everybody all the time, and the soldier must remember that an important part of his business is to do without murmuring and without showing temper or discontent things that he may not like.

The greater part of military life consists of carrying out the wishes, the will, of those legally placed over you—that is, of obeying orders—it is a part of the game—and the military machinery must not be jarred, irritated, or gummed by subordinates giving way to

their feelings and "talking back" or otherwise annoying and hindering instead of helping their superiors in the discharge of their duties.

Everyone in the military service exercising authority, however limited, over others, is himself responsible to those above him for the proper performance of his duties. Always bear this in mind, and remember it is your duty as a soldier to help and assist by prompt, willing, and cheerful obedience and cooperation your superiors in the discharge of their duties, so that they may themselves render a proper and satisfactory accounting to those above them.

11. Be manly. In your relations with your comrades and with your officers, *be manly*.

For instance, if admonished by your superior, or given what you may consider too much work, or given a task with which you are not familiar, and which, therefore, pushes you a little hard—under any of these circumstances, do not in a moment of resentment or discouragement ask to be reduced or to be relieved.

Such action is not only childish, constituting the "baby act," but it is also disrespectful and insubordinate, and should call for punishment.

Be manly about the matter.

If admonished take your medicine like a man—not like a child. Don't cry about it. If given lots of hard work, do it, remembering that work will hurt no man and that it is your duty to do such work, however hard or disagreeable, as your superiors may give you.

If given a task which you *honestly* think is a little beyond you, do not at once throw up your hands in despair, "give up the ghost." Tackle the job with grit and determination, as a *real* soldier should. Give it a good fair trial. If, after having done this, you still *honestly* feel that the task is beyond you, then go to your superior and in a manly, straightforward manner, say to him something like this:

When the Captain detailed me for this work, I felt it was beyond me, but I was determined to give it a trial. However, I am now fully convinced that I am not able to do the work in a way that will be satisfactory to the Captain or myself, and I would, therefore, in justice to the Captain and in fairness to myself, ask that someone else be detailed in my place.

This is the manly, soldierly way of doing it—it will put you on better terms with yourself and will command the respect and win the good-will of your superior.

12. Giving orders. It is not necessary to give your orders in a loud, blustering way, or to punctuate them with curse words. This is neither military nor dignified, and it adds neither force nor importance to your orders.

Whatever orders or instructions you may have to give to subordinates, give them in a quiet, dignified way, letting the tone of your voice, the expression of your face, the determination of your eyes, show that you mean business and if the order is not obeyed promptly and fully without argument, discussion, grumbling or "back talk," the man will be reported at once to his superior for punishment.

And, again, give your orders and instructions without explaining the reason. Some noncommissioned officers seem afraid that they may order privates to do something that they may not like—something that may displease them. But remember the minute you begin to explain and give reasons to those under you for the orders that you give them, you will place yourself, in a way, on the defensive—you assume a sort of apologizing attitude—which shows lack of confidence—a weakness that at once stamps you as a sort of "wishy-washy" individual, and that is just how the very men that you are apparently afraid to displease will look upon you.

So, without being loud, harsh or domineering, give your orders and instructions in a firm, positive way, without entering into argument, discussion, or explanation.

Whenever a noncommissioned officer gives an order, always have the soldier to whom the order is given answer, "Yes sir," thus indicating that he *has heard and understands* the order.

It is astonishing how frequently men who are reported for not obeying orders given by noncommissioned officers, claim that they either did not hear or understand the order.

In connection with the giving of orders, see par. 23 (7).

13. Scope of authority of noncommissioned officers. The authority of noncommissioned officers is not confined to official occasions or to the drill ground, the barracks and the post or camp, but it extends to all places. Whether a man is in the company barracks, on pass, in a theater, on a train, in a streetcar, on the street, or anywhere else, if a noncommissioned officer sees him violating orders by being drunk, disorderly, or boisterous, or doing anything else he should not do, it is the duty of the noncommissioned officer to take some action in the matter, and this regardless of whether or not the man belongs to the noncommissioned officer's company.

14. Treatment of privates. Noncommissioned officers sometimes run to one of two extremes in the treatment of privates—they either, by undue familiarity or otherwise, cultivate popularity with them, or they do not treat them with sufficient consideration. The former course will forfeit their esteem; the latter insure their dislike, neither of which is conducive to commanding their respect.

By maintaining a quiet, dignified reserve, noncommissioned officers can refrain from being familiar with privates without creating the impression that they consider themselves superior to, or better than, other enlisted men.

Under no circumstances should you ever swear at a private—not only is this taking a mean, unfair advantage of your position, but it is also undignified, ungentlemanly, and unmilitary. The treatment of privates should be uniform and just. Discipline should be enforced in a quiet, dignified way, without loud, boisterous talking, swearing, or roughness. Dignity and firmness are not only much more effective, but they also command more obedience and inspire greater respect. The noncommissioned officer who is capricious, insulting, and abusive, demeans himself and disgraces his position.

Remember, the average private does not mind how strict you may be, just so you are fair and impartial.

In connection with the treatment of enlisted men, see par. 23 (8).

15. Nagging. The noncommissioned officer who takes advantage of his position to nag those under him, prostitutes his chevrons and laves himself liable to the punishment he so richly deserves.

16. Growling and whining. Don't be a *growler*—there is nothing so tiresome and boring as a chronic “kicker.”

One sometimes hears a soldier growling about the amount of work he has to do. Remember your time is not your own—it belongs to the Government, which pays you for it.

Whatever you do, do not speak ill of your regiment or any of your officers in the presence of outsiders, civilians, or military, and don't criticize officers or orders in the presence of privates.

Akin to growling is whining. If admonished by your Captain, don't go around telling everybody about it—the chances are they are not at all interested in the matter, and furthermore, such action is childish. If you have done anything to be admonished for, take your medicine like a man, and say nothing about it.

17. Drinking. Excessive drinking in the Army, like excessive drinking in civil life, almost invariably leads to trouble, and often ruin.

If you feel like taking a drink, do so, but do not so far forget yourself as to drink to excess. Reckless drinking is neither manly, military, nor gentlemanly, and is always a drain on the purse and body. A good rule, even for moderate drinking, is never to touch a drop of liquor when on, or about to enter upon, any duty.

18. Military courtesy. The noncommissioned officer should be the very personification of military courtesy—he is expected to set the example for the privates and, therefore, he cannot be too careful and punctilious about salutes and all other matters pertaining to military courtesy.

See, "Military Courtesy," par. 72.

19. Your dress. Always be sure to turn out in the regulation uniform, with your clothing properly brushed, cleaned, and pressed and every article of your equipment shipshape.

Above all avoid slouchiness.

20. Practical instruction. The only reason for the existence of our Army is the possibility of war, and it should always be borne in mind that everything we do—all our preparations, all our instructions, and all our training—has for its final purpose nothing but war, and it should also be borne in mind that everything in war is *practical*.

Be practical. By effort, thought, common sense and experience, learn to tell the difference between the essential and the nonessential, and learn how to DO things. *Learn to THINK for yourself.* The best way to learn a thing is to do it yourself. Instead of confining one's self to lots of rules—instead of loading one's mind up with "Normal formations," etc., think up problems and then solve them—imagine yourself in a certain situation and then work yourself out of it, by applying general principles and common sense—and best of all, *go out and actually DO the thing.*

While every noncommissioned officer should, of course, have a thorough knowledge of such parts of the Army Regulations, the Manual of Interior Guard Duty, and the Drill Regulations as affect noncommissioned officers and privates, too much time should not be devoted to these subjects at the sacrifice of other matters of a more practical nature, such as the applied principles of information and security, field service, individual cooking, military map reading, military sketching, etc.

21. Noncommissioned officers as instructors. One of the most important requisites of a noncommissioned officer is to be able to instruct—impart information to, and show those under them how to

do things. But, of course, a man who does not himself know a thing can not teach it to another any more than a man who cannot do a thing can show another how to do it.

It is especially important that squad leaders should be able to instruct the members of their squads in all their duties, and they should, therefore, do everything possible to qualify themselves to do so.

22. Intelligence and thoroughness. Make yourself useful to your superiors by doing things without being told and by doing whatever you may do, however trivial, *intelligently and thoroughly*.

Pertinent to this rule of conduct the following by the late Elbert Hubbard is reproduced:

A MESSAGE TO GARCIA

In all this Cuban business there is one man stands out on the horizon of my memory like Mars at perihelion. When war broke out between Spain and the United States, it was very necessary to communicate quickly with the leader of the Insurgents. Garcia was somewhere in the mountain fastnesses of Cuba—no one knew where. No mail nor telegraph message could reach him. The President must secure his coöperation, and quickly

What to do!

Some one said to the President, "There's a fellow by the name of Rowan will find Garcia for you, if anybody can."

Rowan was sent for and given a letter to be delivered to Garcia. How "the fellow by the name of Rowan" took the letter, sealed it up in an oil-skin pouch, strapped it over his heart, in four days landed by night off the coast of Cuba from an open boat, disappeared into the jungle, and in three weeks came out on the other side of the island, having traversed a hostile country on foot, and delivered his letter to Garcia, are things I have no special desire now to tell in detail.

The point I wish to make is this: McKinley gave Rowan a letter to be delivered to Garcia; Rowan took the letter and did not ask, "Where is he at?" By the Eternal! there is a man whose form should be cast in deathless bronze and the statue placed in every college of the land. It is not book learning young men need, nor instruction about this and that, but a stiffening of the vertebræ which will cause them to be loyal to a trust, to act promptly, concentrate their energies; do the thing—"carry a message to Garcia!"

General Garcia is dead now, but there are other Garcias.

No man, who has endeavored to carry out an enterprise where many hands were needed, but has been well-nigh appalled at times by the imbecility of the average man—the inability or unwillingness to concentrate on a thing and do it. Slipshod assistance, foolish inattention, dowdy indifference, and half-hearted work seem the rule; and no man succeeds, unless by hook or crook, or threat, he forces or bribes other men to assist him; or mayhap, God in His goodness performs a miracle, and sends him an Angel of Light for an assistant. You, reader, put this matter to a test: you are sitting now in your office—six clerks are within call. Summon any one and make this request: "Please look in the encyclopedia and make a brief memorandum for me concerning the life of Correggio."

Will the clerk quietly say, "Yes, sir," and go do the task?

On your life, he will not. He will look at you out of a fishy eye, and ask one or more of the following questions:

Who was he?

Which encyclopedia?

Where is the encyclopedia?

Was I hired for that?

Don't you mean Bismarck?

What's the matter with Charlie doing it?

Is he dead?

Is there any hurry? •

Shan't I bring you the book and let you look it up yourself?

What do you want to know for?

And I will lay you ten to one that after you have answered the questions, and explained how to find the information, and why you want it, the clerk will go off and get one of the other clerks to help him try to find Correggio—and then come back and tell you there is no such man. Of course, I may lose my bet, but according to the Law of Average, I will not.

Now if you are wise you will not bother to explain to your "assistant" that Correggio is indexed under the C's, not in the K's, but you will smile sweetly and say, "Never mind," and go look it up yourself.

And this incapacity for independent action, this moral stupidity, this infirmity of the will, this unwillingness to cheerfully catch hold and lift, are the things that put pure socialism so far into the future. If men will not act for themselves, what will they do when the benefit of their effort is for all? A first mate with knotted club seems necessary:

and the dread of getting "the bounce" Saturday night holds many a worker to his place.

Advertise for a stenographer, and nine out of ten who apply can neither spell nor punctuate—and do not think it necessary to.

Can such a one write a letter to Garcia?

"You see that book-keeper," said the foreman to me in a large factory.

"Yes, what about him?"

"Well, he's a fine accountant, but if I'd send him up town on an errand, he might accomplish the errand all right, and, on the other hand, might stop at four saloons on the way, and when he got to Main Street, would forget what he had been sent for."

Can such a man be entrusted to carry a message to Garcia?

We have recently been hearing much maudlin sympathy expressed for the "down-trodden denizen of the sweat-shop" and the "homeless wanderer searching for honest employment," and with it all often go many hard words for the men in power.

Nothing is said about the employer who grows old before his time in a vain attempt to get frowsy ne'er-do-wells to do intelligent work; and his long patient striving with "help" that do nothing but loaf when his back is turned. In every store and factory there is a constant weeding-out process going on. The employer is constantly sending away "help" that have shown their incapacity to further the interests of the business, and others are being taken on. No matter how good times are, this sorting continues, only if times are hard and work is scarce, the sorting is done finer—but out and forever out, the incompetent and unworthy go. It is the survival of the fittest. Self-interest prompts every employer to keep the best—those who carry a message to Garcia.

I know one man of really brilliant parts who has not the ability to manage a business of his own, and yet who is absolutely worthless to anyone else, because he carries with him constantly the insane suspicion that his employer is oppressing, or intending to oppress him. He can not give orders, and he will not receive them. Should a message be given him to take to Garcia, his answer would probably be, "Take it yourself."

Tonight this man walks the streets looking for work, the wind whistling through his threadbare coat. No one who knows him dare employ him, for he is a regular firebrand of discontent. He is impervious to reason, and the only thing that can impress him is the toe of a thick-soled No. 9 boot.

Of course I know that one so morally deformed is no less to be pitied than a physical cripple; but in our pitying, let us drop a tear, too.

for the men who are striving to carry on a great enterprise, whose working hours are not limited by the whistle, and whose hair is fast turning white through the struggle to hold in line dowdy indifference, slipshod imbecility, and the heartless ingratitude which, but for their enterprise would be both hungry and homeless.

Have I put the matter too strongly? Possibly I have; but when all the world has gone a slumming I wish to speak a word of sympathy for the man who succeeds—the man who, against great odds, has directed the efforts of others, and, having succeeded, finds there's nothing in it, nothing but bare board and clothes.

I have carried a dinner pail and worked for day's wages, and I have also been an employer of labor, and I know there is something to be said on both sides. There is no excellence, *per se*, in poverty: rags are no recommendation; and all employers are not rapacious and highhanded, any more than all poor men are virtuous.

My heart goes out to the man who does his work when the "boss" is away, as well as when he is at home. And the man who, when given a letter for Garcia, quietly takes the missive, without asking any idiotic questions, and with no lurking intention of chucking it into the nearest sewer, or of doing aught else but deliver it, never gets "laid off," nor has to go on a strike for higher wages. Civilization is one long anxious search for just such individuals. Anything such a man asks shall be granted; his kind are so rare that no employer can afford to let him go. He is wanted in every city, town and village—in every office, shop, store, and factory. The world cries out for such; he is needed, and needed badly—the man who can carry a message to Garcia.

CHAPTER II

DISCIPLINE

23. Discipline may be defined as "The preservation of order, the prevention of all kinds of offenses and the faithful performance of every kind of duty without delay or interruption." —Kautz's Custom of the Service.

Drill, routine, strict attention to details, proper rewards and invariable admonition or punishment of all derelictions of duty, are the best methods of attaining good discipline.

In maintaining discipline, it must be remembered the object of punishment should be two-fold: (a) To prevent the commission of offenses, and (b) to reform the offender. They should, therefore, in degree and character depend upon the nature of the offense. Punishment should not be debasing or illegal, and the penalty should be proportionate to the nature of the offense. If too great it tends to arouse sympathy, and foster friends for the offender, thus encouraging a repetition of the offense. A distinction, therefore, should be made between the deliberate disregard of orders and regulations, and offenses which are the result of ignorance or thoughtlessness. In the latter case the punishment should be for the purpose of instruction and should not go to the extent of inflicting unnecessary humiliation and discouragement upon the offender. In the administration of discipline the following principles should be observed:

1 Everyone, officers and soldiers, should be required and made to perform their full duty. If the post commander, for instance, requires the company commanders to do their full duty, they will require their noncommissioned officers to do their full duty, and the noncommissioned officers will in turn require the men to do the same.

2 Subordinates should be held strictly responsible for the proper government and administration of their respective commands and all changes or corrections should be made through them.

3 Subordinates should have exclusive control of their respective commands and all orders, instructions and directions affecting their commands should be given through them.

4 If, in case of emergency, it be not practicable to make certain changes or corrections, or to give certain orders, instructions or directions, through the subordinates, they should be notified at once of what has been done.

5 After a subordinate has been placed in charge of a certain duty, all instructions pertaining thereto should be given through him, and all meddling and interfering should be avoided. Interference by superiors relieves the subordinate of responsibility, and causes him to lose interest, become indifferent, and do no more than he is obliged to do.

6 The certainty of reward for, and appreciation of, meritorious conduct, should equal the certainty of punishment for dereliction of duty.

7 It is the duty of an officer or noncommissioned officer who gives an order to see that it is obeyed; carrying out orders received by him does not end with their perfunctory transmission to subordinates—this is *only* a small part of his duty. He must personally see that the orders so transmitted are made effective.

8 The treatment of soldiers should be uniform and just, and under no circumstances should a man be humiliated unnecessarily or abused. Reproof and punishment must be administered with discretion and judgment, and without passion; for an officer or noncommissioned officer who loses his temper and flies into a tantrum has failed to obtain his first triumph in discipline. He who can not control himself can not control others.

9 Punishment should invariably follow dereliction of duty for the frequency of offenses depends, as a general rule, on the degree of certainty with which their commission is attended with punishment. When men know that their derelictions and neglects will be observed and reproof, they will be much more careful than they would be otherwise—that's human nature.

10 Obedience—the cardinal principle of all discipline—may be defined as submission to the *lawful* orders of superiors. Men can not be punished for refusing to obey *illegal* orders. The question then arises, who is to judge of the legality of the order? It is evident that if all officers and soldiers are to judge when an order is lawful and when not, the captious and mutinous would never be at a loss for a plea to justify their insubordination. It is therefore an established principle, that unless an order is so manifestly against law that the question does not admit of dispute, the order must first be obeyed by the inferior, and he must only subsequently seek such redress against his superior as the law allows. If the inferior disputes the legality *before* obedience, error of judgment is never admitted in mitigation of the offense.

CHAPTER III

THE COMPANY NONCOMMISSIONED OFFICERS

24. Noncommissioned officers to correct errors. Experience has shown that it is the company in which noncommissioned officers attend to details; the company in which apparent trifles, such as excessive swinging of the arms in marching, improper sloping of the rifle at right shoulder, the failure to cut away the hand with snap in manual of arms, and talking and gazing about in ranks—experience has shown that it is the company in which these apparent trifles are continually corrected, that will always prove most satisfactory to its commander and be most efficient in the field. Attention to these details soon becomes a habit, which in turn is applied to more important matters. Remember, too, that the company which takes pride in the snap and accuracy with which it does things on the parade ground is also most likely to be the company that will conform strictly to the requirements of discipline in garrison and in the field. However, noncommissioned officers should be careful to correct errors in a just and dignified manner, and under no circumstances to allow the proper correction of errors to degenerate into nagging.

25. Assistance of noncommissioned officers in preventing commission of offenses. Noncommissioned officers can do much to prevent the commission of offenses by members of their command, both when on and when off duty, and such prevention is as much their duty as reporting offenses after they are committed; in fact, it is much better to prevent an offense than to bring the offender to trial.

It is a well known fact that the noncommissioned officers can reduce materially the number of courts-martial in a company, by studying their men and taking an interest in their welfare; by exercising restraint and common sense while at the same time preserving discipline. Some men can be handled only with stern and severe measures, while others are ruined if so handled. Sometimes a quiet talk from a noncommissioned officer whom the man respects will be more beneficial than a court-martial.

26. Be firm but fair. Noncommissioned officers must make their men understand that they mean what they say; that they will stand no nonsense, but that, on the other hand, they can be relied upon for fair and square treatment.

27. Enforcement of quiet and order in quarters. No company can be a good company if discipline in quarters is loose. The men should be able to feel that in their quarters they have a home where they can read, sleep, and converse peacefully, and into which rowdiness can not penetrate.

While the duty of maintaining order and quietness in quarters devolves principally upon the noncommissioned officer in charge of quarters, all noncommissioned officers should take pains to stop at once all form of boisterous conduct.

28. Noncommissioned officers being addressed properly. Noncommissioned officers must insist upon privates addressing them by their titles of "Sergeant" and "Corporal," and not as "Smith," "Jones," etc.

29. To assist company commanders in carrying out orders. So far as the company is concerned, the noncommissioned officers are expected to assist the company commander in carrying out his own orders and those of his superiors—they should see that all company orders are obeyed and that the known wishes of the Captain are carried out.

30. Suppression of disorderly conduct at all times. Noncommissioned officers are on duty at all times and places for the suppression of disorderly conduct on the part of members of the company in public places. Men creating disorder should be sent to their quarters in arrest and the facts reported to the company commander without delay.

31. Respect and obedience to noncommissioned officers. In the orders and directions they give, company noncommissioned officers represent the company commander, and they must be obeyed and respected at all times and under all circumstances.

Orders and regulations require that men respect and obey their noncommissioned officers, and discipline makes it imperative that they do so.

It is not for a private to question in any way the fairness, justice, propriety, or wisdom of an order received from a noncommissioned officer. When ordered by a noncommissioned officer to do a thing, whatever it may be, the man receiving the order must obey it promptly and fully, and then, if he feels that he has been injured in any way, let him report the matter to the company commander, who will see that justice is done. If the noncommissioned officer made a mistake, exceeded his authority, or treated the man unfairly

he will be punished by the company commander. The company commander, and not the privates of the company, is to judge the conduct of noncommissioned officers, who are directly responsible to him for every act of theirs.

If every subordinate were to question the fairness, justice, propriety, or wisdom of orders received from noncommissioned officers or other superiors, there would be no discipline, and the Army would soon degenerate into a mob.

32. The usual duties of the various company noncommissioned officers. Although the usual duties of the noncommissioned officers vary to a certain extent in different companies, there are, in the main, basic features, practically the same throughout the service.

The usual duties of company noncommissioned officers are given below.

33. Platoon Leaders. They are responsible that the chiefs of squads in their platoons perform their duties properly, and in the temporary absence of squad leaders designate privates to perform their duties.

They see that all post or company orders in regard to uniformity in displaying bedding, clothing, and equipment are carried out.

They will see that no liquor is brought into their platoons.

They are charged with the proper ventilation of the rooms under their charge.

They will be present when their chiefs of squads check up the clothing in the possession of the members of their squads.

At Saturday morning, and all other formal inspections of quarters, they will await the company commander at the end of their platoons nearest him and, following the first sergeant, will precede the company commander to the end of their platoons.

34. Chiefs of squads. To inspect their squads on the company parade before all inspections under arms, being held responsible that the members of their squads present a neat, tidy appearance and that their arms, accouterments, and uniform are in shipshape condition.

To see that each man polices about his bunk, folding his bedding in the prescribed manner, immediately after breakfast. They will designate soldiers to look after the bunks, floor space, etc., of members of the squads who may be absent.

They will be in charge of their respective squads when general police is ordered.

A thorough police of barracks will precede Saturday morning inspection. The chiefs of squads will see that bunks and bedding

are overhauled, floors, tables, and benches scoured, arms and accouterments clean, and all leather articles polished. (A. R. 282.)

Chiefs of squads will be held responsible for the cleanliness of their men. They will see that those who are to go on duty put their arms, accouterments, and clothing in the best order. (A. R. 283.)

To make individual lists of all the uniform clothing in the possession of the men of their squads, and, in the presence of the platoon leader, make a careful check of such clothing as often as may be required by the company commander (usually once a month).

To keep strict supervision at all times over the appearance of the members of their squads, seeing that they bathe as often as may be necessary, that the hair is kept properly trimmed, etc.

To be held strictly responsible that the members of their squads are at all times properly and completely equipped and that the mess can, canteen, cartridge belt, condiment can, shoes, leggins, and every other article of equipment and clothing are in good, serviceable condition. They will make such inspections of the members of their squads and their equipment and clothing as may be necessary to assure themselves that they are properly equipped and that the equipment and clothing are in good condition.

To notify their platoon leaders before leaving their squads to go on pass, guard, etc.

To do all they can to prevent the violation of orders by the members of their squads.

35. Noncommissioned officer in charge of quarters. During his tour of duty he is actively in charge of the barracks, and all matters going on therein with which others are not specifically charged.

He will be on the alert during his tour of duty, enforcing quiet and orderly conduct and correct behavior on the part of the other enlisted men.

He will enter upon his duties immediately after reveille, and will stand relieved after he has returned from sick call the following morning and has turned over the property and keys to his successor and has signed the Report of Noncommissioned Officer in Charge of Quarters.

He will receipt in the Report of Noncommissioned Officers in Charge of Quarters for all the property listed therein which is turned over to him and will enter in the report a brief statement of all unusual incidents happening during his tour of duty.

In company with his successor he will, as soon as practicable after sick call, make an inspection of quarters and verify all property, counting the number of rifles and pistols in the racks.

The old and new Noncommissioned Officers in Charge of Quarters will report to the First Sergeant immediately after their inspection, presenting their report for his inspection.

He is responsible, during his tour, for good order and military discipline in quarters, and the police of porches, grounds, lavatories, latrines, and amusement room.

He will see that there is always a supply of toilet paper in the toilets, and will inspect the rears, washrooms, and garbage cans once every hour during the day.

He will see that the gun racks are locked at all times when arms are therein.

When turning over he will make a report of the number of rifles and pistols in the racks and the number on guard or elsewhere.

At tattoo he will see that all lights are extinguished except one in the washroom, one in the rear, and those in the amusement room, which will be extinguished at 11 o'clock.

He will allow no one except men sick in quarters to lie or lounge on their beds before the daily inspection of barracks by the company commander.

He will inspect all men going on pass and allow no one to take advantage of his pass unless properly shaved, and neatly dressed in regulation uniform, with shoes shined.

He will not leave the quarters during his tour of duty except at sick call and when going for the mail, and in both cases he will first designate some other noncommissioned officer to act as Noncommissioned Officer in Charge of Quarters during his absence.

He will make special report at any time to the company commander or the first sergeant of any violation of orders or regulations or any other matter which, by its nature, should be brought to their attention at once.

He will see that men in arrest or confinement in quarters do not leave the same without proper authority.

He will see that faucets are turned off when not in use and that no unauthorized lights are burned in barracks after hours, and that all brooms, brushes, mops, etc., used for general police of barracks, are kept in their places.

He will allow no liquor of any kind to be brought into the barracks.

He will accompany the company commander through the barracks at all inspections.

36. Other company noncommissioned officers. The usual duties of the First Sergeant, Supply Sergeant, and Mess Sergeant are given in the chapters that follow.

CHAPTER IV

THE FIRST SERGEANT

37. Nature of office. It has been said that the Captain is the proprietor of the company and the First Sergeant is the foreman. His position is, indeed, one of importance and responsibility. Through speech, manner and action he must leave no doubt in the minds of each and every member of the company, noncommissioned officers and privates, that next to the commissioned officers he is the head of the company and that during the absence of all officers he is the company commander's personal representative in the company and must be obeyed and respected accordingly.

The First Sergeant who permits any "back-talk" is not fit for the position—he will soon be looked upon by the men of the company as a "joke."

He should use the influence and prestige of his position to further the contentment, harmony, esprit de corps of the company.

He can do a great deal in settling minor differences between members of the company.

He should make the men feel that they have in him a good friend and a loyal comrade—one who always has time to listen to their troubles and straighten out their difficulties.

He should let his men know that all privileges consistent with discipline and necessities of the service will be granted them and that when a privilege is withheld it is because there is some good reason for it and not because of the whim or fancy of someone in authority over them.

Remember that the convenience of enlisted men can often be consulted in minor matters without in any way jeopardizing discipline, and that when possible it should be done—it will go a long way toward making the men contented and satisfied.

38. General duties.¹ Under supervision of the captain he has immediate charge of all routine matters pertaining to the company. He looks after all company property, books, papers and records, in the care and keeping of which he is assisted by the other noncommissioned officers and the company clerk.

¹ The collated experiences of ten experienced First Sergeants.

Every day at "First Sergeants' Call" he will repair to the adjutant's office and get the company morning report, together with a list of the noncommissioned officers and the number of privates required for guard the next day. He will also receive from the sergeant-major such orders, communications, etc., as may be given him for the company.

After "First Sergeants' Call" he will prepare a list of the names of the noncommissioned officers and privates detailed for guard the following day. This will be posted on the company bulletin board,* and published at retreat.

He will publish to the company at retreat all post general orders received that day, or that have not yet been read to the men.

Every morning, immediately after breakfast, he will turn out as many men as may be necessary to police the barracks and the grounds around the quarters. (This is sometimes done by the noncommissioned officer in charge of quarters.)

Every Friday he will ascertain from the company commander the uniform for Saturday morning inspection the next day and will notify the company officers and the company accordingly. He will notify the mess-sergeant of the soldiers who are absent on duty and for whom meals must be saved. *

He will inform the Company Supply Sergeant of all orders, circulars, and instructions that may be received concerning Ordnance, Quartermaster or any other property pertaining to a company.

He will see that all drawers, lockers, and boxes are opened at the weekly, monthly, and other formal inspections of quarters and that the Morning Report, the Correspondence Book and all other record books are laid out and opened for examination on such occasions.

(He may do this by giving standing instructions to the company clerk and the noncommissioned officers in charge of squad-rooms.)

He accompanies the Company Commander on his daily inspection of the barracks.

He will see that camphor balls (or coal oil and lye) are kept in the urinals and that all metal door knobs, faucets and other metal parts around the quarters are kept properly polished. He will also see that all window panes are kept clean. (Sometimes done by the N. C. O. in charge of the quarters.)

39. The daily routine duties of a First Sergeant are: Taking reveille roll call; entering the names of sick on the Sick Report, and

* Every company should have a large bulletin board, hung in some convenient place, on which will be posted all orders, notices, etc., affecting the company.

sending the report and the sick to the Hospital by a noncommissioned officer (generally the Noncommissioned Officer in Charge of Quarters); making out the morning report¹ and the passes, getting the Company Commander to sign them and then taking them to post headquarters; forming and inspecting the guard detail and then marching it to guard mount; repairing to post headquarters at First Sergeants' Call to receive the Morning Report, the guard and fatigue details for the next day and such orders and communications as there may be for the Company Commander; making out the details for the next day and making the proper entries in the Duty Roster; publishing to the company at retreat the guard and fatigue details for the following day and posting same on the company bulletin board; forming the company and calling the roll for all drills, ceremonies and other formations; exercising supervision over the official correspondence of the company, and preparing for the signature of the Company Commander all the reports and returns that are to be rendered the next day, and the discharges and final statements of men to be discharged the following day.

Things the First Sergeant Should Take Special Care To Do.²

40. To ascertain the Captain's wishes, then not only carry them out himself, but also see that others do the same.

To be always properly and neatly dressed.

To be firm but not overbearing.

Have no favorites and do justice to all, being strictly honest and distributing equally all duties among the members of the company.

Remember, if there is any one thing that soldiers can not stand, it is *partiality*, and that there is no one thing that will destroy the contentment, harmony, and esprit de corps of a company more than continued partiality on the part of the First Sergeant. Impartiality is one of the important requisites of a good First Sergeant.

Men who try to avoid small routine duties, such as policing around quarters, etc., should be given at once a task of a harder nature. If the First Sergeant overlooks small matters like this on the part of some men, it will not be long before other men will get into the habit of avoiding these duties, until eventually there will be but a few men doing what every man should do, with the consequent discontent in the

¹ The First Sergeant should never submit the morning report to the Captain for his signature, unless he has satisfied himself by checking it up that it is correct. It is astonishing how many morning reports are submitted to the Adjutant's Office with mistakes.

² This is the collated experiences of ten experienced First Sergeants.

company. Especially is this true in the field, where this matter should receive the special attention of First Sergeants.

Have a place for everything and keep everything in its place.

Obey orders strictly and execute promptly all the orders of the Company Commander, and personally see that they are complied with in the company. He should see that his own orders are strictly and promptly obeyed.

Set an example to the rest of the company in morality sobriety, manliness, and soldierly bearing.

Quell promptly with a firm hand any disorder that may arise in the company.

Offenses committed by members of the company must be promptly reported to the Company Commander, and any extra fatigue awarded by the Company Commander is to be carried into effect as soon as practicable.

Make it a rule to be on the company parade at least three or four minutes before the assembly for formations; see that the men fall in promptly at the assembly, that they answer to their names properly, that they do not gaze about in ranks and that they maintain a military bearing while at attention.

If a man is too drunk to remain in quarters if put in arrest, he should be confined in the guardhouse.

He should learn, as far as practicable, the desires of the members of the company and keep the Company Commander informed of them.

If anything comes up that requires immediate action, act at once and then promptly report the facts to the Company Commander.

The duty roster should be carefully kept so that there shall be no grounds for complaint on the part of the men detailed and no suspicion of partiality.

He should see that such papers as need comparison, especially final statements, are carefully compared before being presented to the Company Commander for signature.

Have the morning report signed and in the Adjutant's Office every morning at or before the specified time.

After clothing has been drawn take special care to see that the proper amounts are entered on the Service Record of each man.

To see that all property lost through neglect is charged on the Muster and the Pay Roll against the person responsible.

When a man is transferred, goes on detached service, or is sent away to a hospital, see that his Service Record is made out at once and forwarded to destination.

Read carefully all orders, circulars, and letters of instruction that are received.

Things the First Sergeant Should Take Special Care NOT To Do.¹

41. Not to give the men cause to feel any unfairness in details or in the allotment of duty. An old First Sergeant says his motto has always been: *"Treat every man justly, whether young or old, and you will gain the confidence of all."*

Not to do anything or not to use any language that would lead to undue familiarity on the part of privates or noncommissioned officers, and nor should he allow any other of the noncommissioned officers to encourage familiarity between themselves and the privates.

Do not trifle with, gibe or antagonize the men of the company, and never try to act as "good fellow" with those under you.

Do not enter into any quarrels, disputes, or arguments of any kind with members of the company.

While he should not, under any circumstances, allow other noncommissioned officers or privates to tell him what he should do, he should, on the other hand, always be open to suggestions.

He should not allow noncommissioned officers and privates to rattle to him about members of the company if they have anything to say about anyone they should tell it in the manner of a verbal report.

He should not interfere with noncommissioned officers to whom he has given certain work: he should give complete instructions before the work is commenced, but after that the noncommissioned officer in charge should be let alone and only required to PRODUCE THE RESULTS to "*deliver the goods*". If interfered with by the First Sergeant, a noncommissioned officer will become discouraged and his usefulness marred.

He should not have any business dealings with members of the company, especially about lending money on interest, and he should never get under money obligations to any member of the company.

He should not gamble with any member of the company. (The First Sergeant who does should be promptly reduced.) Nor should he allow any other noncommissioned officer to do so.

¹ This is the collated experiences of ten experienced First Sergeants.

Under no circumstances should he allow the orderly room to become a loafing place—no one should ever be allowed in the orderly room except on business.

Not to permit any disrespect toward noncommissioned officers on the part of privates.

Never criticise officers or noncommissioned officers in the hearing of privates or other noncommissioned officers.

A First Sergeant should not lose his temper and take as a personal insult any disobedience of his orders.

If ordered by higher authority to have any duty of a disagreeable nature done, do not act and order its being done as if it were disagreeable to you personally—do not say that you are having it done by order of so and so. Such action on the part of a First Sergeant is childish and unmilitary.

If a First Sergeant expects to go on furlough, a month or so before leaving the noncommissioned officer who is to act as First Sergeant during his absence should be put on duty in the company office as his assistant, so that he may thus become familiar with the work of the office.

How Can a FIRST SERGEANT Make Himself Most Useful To His Captain and What Are The Usual Ways of Doing So?

42. By faithfully carrying out the instructions given under the headings, "General Duties," "Things the First Sergeant Should Take Special Care to Do," and "Things the First Sergeant Should Take Special Care NOT to Do," and by taking as much personal pride in the company as if he owned it himself; by doing his duty conscientiously, without fear or favor, making it his special business to instill discipline into the organization and to correct incessantly all faults in dress, demeanor and drill; by endeavoring not only to make the men satisfied with the company, but also to make them take pride in it and its reputation. Such a company will work together, like one man—the Supply Sergeant and the Mechanic will make it their boast that they are never short any property or equipment and that the company is the best equipped in the command. The Mess Sergeant and the Cooks will tell how theirs is the best fed company in the post; the Chiefs of Squads will talk enthusiastically about their men; the Company Clerk will boast that his is the most methodical and systematic company office in the regiment, and that no papers are ever sent back for correction; and every noncommissioned officer and private will brag of the company.

"Customs of the Service" Affecting FIRST SERGEANTS.

43. It is a very general custom for members of the company to get permission from the First Sergeant to speak to the Company Commander. Some Company Commanders give orders to that effect.

It is customary for the First Sergeant to give the Company Commander such information about the company and the members thereof as he deems necessary to the interest of the organization.

In some companies the First Sergeant has standing permission to be absent from check.

It is customary to allow the First Sergeant considerable latitude about giving verbal orders regarding the minor routine of the company.

Company Commanders are very liberal about granting First Sergeants passes and other privileges.

In the Cavalry First Sergeants are generally allowed to use their horses between reveille and retreat without having to get permission from the Troop Commander.

LABOR-SAVING DEVICES, CONVENIENCES AND METHODS THAT ARE OF USE IN THE COMPANY OFFICE

44. One of the greatest labor-saving devices in a company office is **SYSTEM**—*system in everything.*

The following devices and conveniences not only save time and labor, but they also do a great deal toward introducing method and system into the transaction of business in the company office:

(a) *Typewriter.* Now-a-days, it goes without saying that no company office is complete without a typewriter. For all-around field and garrison work the CORONA, which is used throughout the Army, is recommended. Not only is it less bulky and lighter than other machines, but it is simpler in construction and will stand harder usage. The Corona Folding Stand adds very much to the convenience of the machine for field use.

(b) *Company desk.* A company desk of the design on page 50, for use in garrison and permanent camp, is a convenience of the greatest value. It can be made by a good company mechanic or obtained from Geo. Banta Publishing Co., Menasha, Wis., for about \$25. The guide cards can be obtained from Cobb-Macey-Dohme, 412 Broadway, New York, or any other large dealer in office furniture and accessories.

(As a rule men are not permitted to see the Company Commander at his quarters unless there is some good reason for it. They usually see him in the company office or as he is leaving.)

(c) *Book rack.* The book rack shown below, placed on the wall, within easy reach of the company commander as he is sitting at his desk, is another convenience.

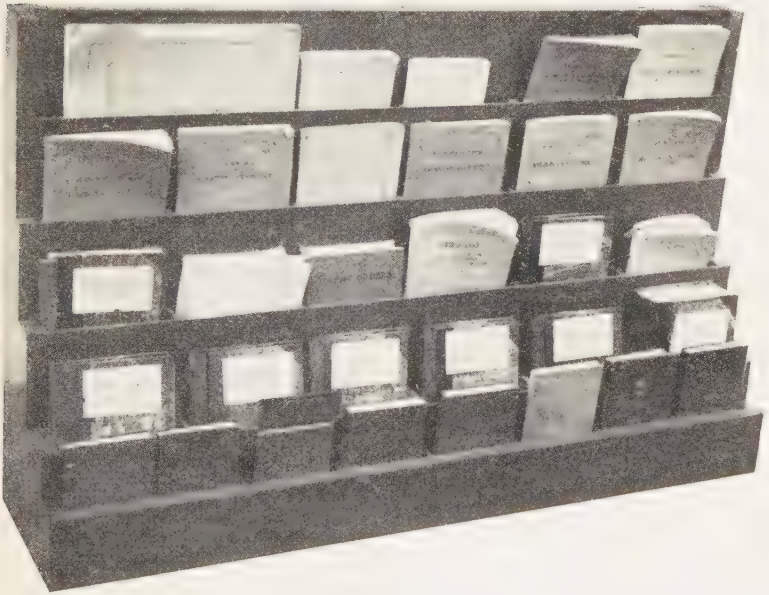


Fig. 1

(d) *Rubber stamps.* (1) A receiving-dating rubber stamp on a single frame may be used, thus:

Rec'd Co. "A," 100th Inf., July 4/17.

Or, there may be two different stamps. For example:

(a) Rec'd Co. "A," 100th Inf.,

(b) July 4/17. (Dating stamp.)

There should also be a received-back stamp. For example:

Rec'd back Co. "A," 100th Inf., July 20/17.

The Rec'd back stamp may, like the Rec'd stamp, be a single stamp or it may consist of two different stamps.

(2) COMPANY FUND, Co. "A," 1st INFANTRY.

(Used on checks drawn against the company fund.)

(3) (Fig. 2.)



Fig. 2

(Used for stamping books, papers and magazines received in the company library.)

(e) *Two-basket system.* Keep two ordinary wire baskets, or flat wooden boxes, on the company commander's desk, one on the left and the other on the right. All papers requiring the signature or other attention of the company commander, and all incoming orders and other business are placed, say, in the basket or box on the left. After reading the orders and signing the papers or taking such action as may be necessary thereon, the company commander places them in the other basket for proper action by the First Sergeant or company clerk—that is, for filing, mailing, or writing of indorsements, etc.

(f) *Labor-saving forms.* Geo. Banta Publishing Co., Menasha, Wis., print a number of special Blank Forms, known as "Simplex" forms, whose use in a company saves much time and labor. It is suggested that you write for a catalogue of their "Simplex" Blank Forms. The Company Collection Sheet, the Target Score Card, the Rifle Record Card, and the Daily Detail lists, are especially recommended, but the Muster and Pay Roll Data Card is probably the best of the "Simplex" forms. It is used as follows:

When anything happens that should be noted on the muster or pay roll, enter, *at the time*, the appropriate remark on the man's card, and place same on the company commander's desk for him to see.

For example:

(a) If a man is absent a day or more without leave, when he returns submit his muster and pay roll data card, with the proper entry thereon, to the company commander with the morning report on which the man's return to duty is noted.

(b) If a man is tried and convicted by court-martial, place his muster and pay roll data card, with the proper entry thereon, on the

company commander's desk with the summary court record or court-martial order, just as soon as it is received.

(c) If a man is transferred to another organization, or detailed on detached service, submit his muster and pay roll data card, with the proper entry thereon, to the company commander when the D/L is signed.

(d) If a man is discharged, submit his muster and pay roll data card, with proper entry thereon, to the company commander when the discharge and final statements are signed.

(e) If a letter is received affecting a man's pay, submit his muster and pay roll data card, with the proper remark thereon, to the company commander with the letter in question.

(f) If a man dies, submit his muster and pay roll data card, with proper remark thereon, to the company commander when the Inventory of Effects and final statements are signed.

In short, whenever any order, record or paper, is placed before the company commander which necessitates the entry of a remark on the muster or pay roll, submit the man's muster and pay roll data card to the company commander at the same time. In this way the company commander KNOWS that absolutely EVERYTHING that is taking place in his company that should be entered on the muster and pay rolls is being, in effect, entered on such rolls as the things take place, AND THERE IS NO FORGETTING.

The preparation of the pay rolls and muster rolls will then consist merely in copying on the rolls the various entries on the Muster and Pay Roll Data cards.

45. Company paperwork. The First Sergeant should, of course, be thoroughly familiar with all company papers and their preparation. The subject of company paperwork is too extensive to be covered in a manual like this, so, it is suggested that every First Sergeant supply himself with a copy of "ARMY PAPERWORK," which covers company paperwork in an exhaustive way, including the preparation of muster and pay rolls, company returns, discharges, final statements and all other company papers, together with numerous "models."

(Obtainable from Geo. Banta Publishing Co., Menasha, Wis., or from any of the distributors named at the beginning of this manual. Price, \$2.)

• COMPANY DESK •

Designed By

CAPT-JAS. A. MOSS - 29th INFANTRY

LISTED:-

All Outside Joints To Be Dowelled - Outside Lumber $\frac{1}{8}$ " Thick - Partitions $\frac{1}{2}$ " Thick
Hardware Accessories = 2 Handles - 4 Hinges - 1 Staple - 1 Hasp - 1 Padlock
Compartments: A - Correspondence

B - Related Muster & Pay Rolls & Other Related Papers Of

Similar Size - Also For Keeping These Blank Forms

C & D - Deposit Books - Descriptive Lists - Unit-

Accountability Returns & Other Papers Of

Similar Size - Also For Keeping These

Blank Forms -

(Note - Use Heavy Guide Cards As Separators)

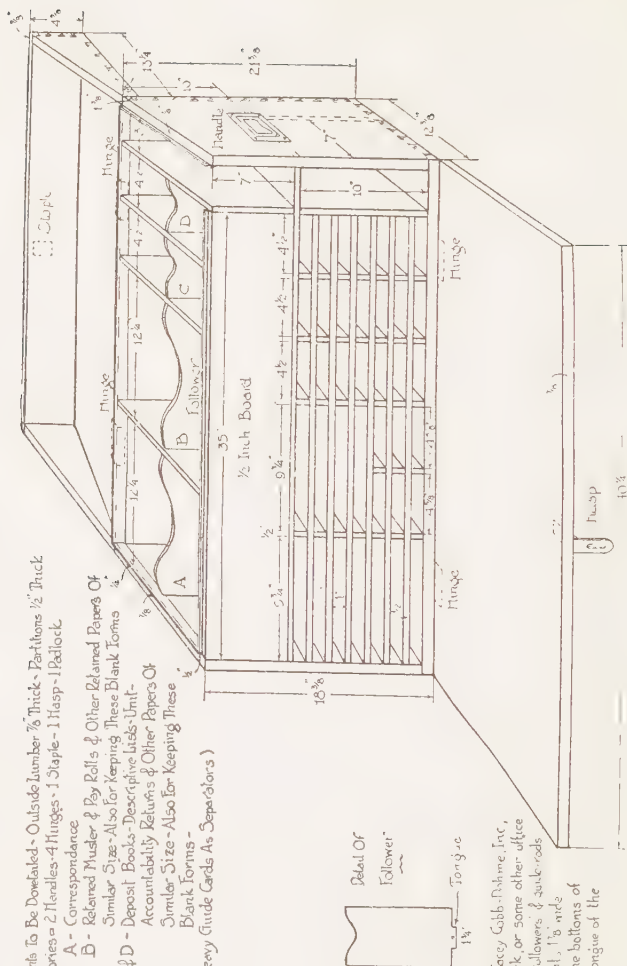


Fig. 3

(Note - Get from Macey Gibbs & Co., Inc.,
412 Broadway, New York, or some other office
furniture dealer. Followers & guide cards
for A, B, C & D - 5 1/2" x 1 1/2" wide
must be cut in the bottoms of
A, B, C & D for the tongue of the
follower.)

CHAPTER V

THE COMPANY SUPPLY SERGEANT

46. General duties. The Supply Sergeant is charged with the care, repair, preservation, and custody of all company Ordnance, Quartermaster, and other property and equipment, except the tableware and cooking utensils, with the care and custody of which the Mess Sergeant is charged.

He also has charge of the records pertaining to the property, in the keeping of which he may receive the assistance of the company clerk.

The company mechanic is under his orders.

47. Necessary knowledge. In order to be able to discharge his duties in an efficient businesslike manner the Supply Sergeant must be familiar with the regulations and instructions pertaining to the care, repair, preservation, procuring and disposing of company property, and with this end in view every company Supply Sergeant should be thoroughly familiar with—

(a) Ordnance Department Pamphlet No. 1965, "Instructions for the Care and Repair of Small Arms and Ordnance Equipment."

(b) G. O. No. 26, War Department, 1917, giving table of credit allowances and instructions regarding the disposition of unserviceable Ordnance property.

(c) The provisions of the Army Regulations regarding property accountability and responsibility.

(d) Ordnance Department Pamphlet No. 1970, "Supply and Allowance Tables," which gives the allowances for Ordnance cleaning, preserving and repairing supplies, and which, together with Pamphlet No. 1879, "Price List of Ordnance and Ordnance Stores," enumerates all materials and spare parts that can be obtained for the cleaning, preserving and repairing of Ordnance equipment.

He should also visit the office of the post Ordnance Sergeant and ascertain from him just exactly what spare parts may be obtained and what tools may be borrowed from the Ordnance Office for the repair of Ordnance property and equipment.

48. Care and storage of property. The following should be observed in the care and storage of property:

Small arms and their appendages should be cleaned and oiled before being stored.

Sheets, pillow cases, canvas, etc., should be dried thoroughly before storing.

Whenever any arms are turned in they should be carefully examined and any needed repairs attended to at once.

On dry days all windows and doors of the storeroom should be opened and the air allowed to circulate through the place.

49. Care and preservation of equipment. The Supply Sergeant should know more about the care and preservation of equipment than anyone else in the company; he should be the company's expert on the subject.

See pars. 85—89 for the care and preservation of Ordnance equipment.

53. Things that the Company Supply Sergeant Should Take Special Care To Do.¹

All property should be kept under lock and key, and the Supply Sergeant should be the sole custodian of the keys. Never leave the storeroom without first seeing that it is locked, and see that no light is left burning in the room. See that all property issued to the members of the company is receipted for when issue is made and that property gotten by company or other officers is entered on their memorandum receipts.

See not only that every soldier joining is furnished with the required equipment, but also that every article is in good serviceable condition, and marked with the letter of the organization, the number of the regiment and the number of the soldier. The numbers of all arms issued, transferred, etc., should be carefully noted.

Take special care that all property lost, damaged or destroyed by members of the company is charged up against them.

Get and store the equipment of men who are absent on account of sickness, confinement or for any other reason, and see that the equipments turned in by men severing their connection with the company is in clean and serviceable condition. The property of a man who is absent should be tied in a blanket or shelter half, put away by itself and tagged with the man's name.

The papers pertaining to the Ordnance, Quartermaster, and other property should be so kept that the Supply Sergeant can tell at once, at any time, exactly how much property the company commander is responsible for and where it is.

¹ The collated experiences of nine Company Supply Sergeants.

An inventory should be taken once each quarter, and property in general use, such as spades, axes, shovels, ash barrels, etc., should be frequently checked up, so that in case of shortage it will not be so difficult to fix the responsibility.

Inform the company commander of any article required at the time, or that will be required in the near future, for the proper equipment of the company, or for the proper care of such equipment.

Turn in all unserviceable Quartermaster property, and if it is not replaced, get credit slips for same.

Be careful to keep an accurate account of all ammunition expended in target practice from day to day.

Be sure to make it an invariable rule always to get a receipt of some sort for all property leaving your possession.

See that all property is properly marked,—that which is issued to individuals, as required by the Army Regulations; that which is in general use around the company, with the letter and regiment of the organization. Sheets, pillow slips, etc., should be indelibly marked with a rubber stamp. Picks, axes, hatchets and other articles with wooden parts should be branded with the letter of the company.

When in the field never leave a camping ground without first going over same,—you will often find articles of Ordnance forgotten by some of the men.

In preparing Ordnance stores for shipment to an arsenal, be sure that the contents of the package tally absolutely with the invoice, do not put in any spare parts that are not on the invoice.

During the target season see that as many empty shells as possible are returned and have them thoroughly cleaned without unnecessary delay, as this affects the ammunition allowance of the company.

54. Things the Company Supply Sergeant Should Take Special Care NOT To Do.¹

Never receipt for property that is not serviceable.

Do not sign for property without first having received it.

Consult the company commander on all matters of importance, but do not bother him with useless questions.

Do not get on bad terms with the Regimental Supply Sergeant or the Post Ordnance Sergeant or any one else with whom you may have to do business.

¹ The collated experiences of nine Company Supply Sergeants.

In receipting for property never take anything for granted,—always see for yourself,—carry out the popular saying, “*I am from MISSOURI; you must show me.*”

(Whenever packages of supplies are opened for the first time the officer responsible or some other commissioned officer will be present and verify the contents by actual weight, count or measure. A. R. 669)

Never issue a new article to one man and an old one to another; that is to say, show no favoritism, but treat everyone alike.

55. Labor-Saving Devices, Conveniences and Methods that Are of Value To a Company Supply Sergeant.

The storeroom should be a model of neatness, system and method.

There should be as many shelves as possible, which can be made of packing boxes in which Ordnance and other supplies are received. Oils, paints and other similar articles should be kept on the lower shelves. Everything should be so arranged as to be in sight. If this be not practicable, all articles not so exposed to view that they can be readily counted, should be listed and the list placed where it can be seen. Especially should this be done with the stores in chests and boxes.

Get from the Quartermaster Corps a blank book of convenient size and rule it with proper headings as a charge book. In this book is kept a complete record of all articles issued to soldiers to replace those lost or damaged. In order to avoid discussion in the future, soldiers should be required to sign in the book for articles so issued.

56. Rubber Stamps.

Co. “A”
24th INFANTRY
NO. ———

The figures 0 to 9 should go with this stamp.

Used for the marking of linen and clothing, so that the marking throughout the company shall be uniform.

57. A stencil outfit to mark Ordnance equipments is furnished by the Ordnance Department, and a marking set for marking boxes, etc., can be obtained from the Quartermaster Corps.

58. Grindstone. A small grindstone about six inches in diameter, to sharpen kitchen knives, etc., is a convenience.

59. Hand-Cart. If the company has not a hand-cart, effort should be made to get one from the Quartermaster Corps. A hand-cart is one of the greatest conveniences that a company can have. Not only is it always at hand for the transportation of rations, clothing and other

supplies drawn by the company, but it can also be used continually around the company for various purposes.

60. An Arm Repair Chest is furnished each company by the Ordnance Department for use in repairing Ordnance equipment.

61. Arm racks and arm chests are issued by the Ordnance Department for the safe keeping of small arms. Officers who are responsible for small arms, and who neglect to obtain these chests, are regarded as not having taken every precaution to prevent loss. (Par. V, G. O. 20, 1916.)

How Can a Company Supply Sergeant Make Himself Most Useful to His Company Commander?

62. By being careful and methodical in looking after the property interests of the company; by familiarizing himself with all orders and regulations that affect him; by having the property in such condition that it can be easily checked at a moment's notice and in case of a sudden move the company commander would not have to bother himself about getting his property together and preparing it for shipment.

CHAPTER VI

THE MESS SERGEANT

63. Duties. The following are the duties of the Mess Sergeant as laid down in the *Manual for Army Cooks (1916)* :

He is in immediate charge of the mess and directly responsible for its management.

Under the direction of the company commander, he draws or purchases all rations and other supplies required for the company mess.

He prepares all bills of fare and submits them to the company commander for approval.

He submits to the company commander a daily statement showing the exact financial condition of the mess. This statement includes receipts from all sources from the first of the month, the cash credit with the quartermaster, value of stock on hand, the allowance from the company fund, if any, and a detailed report of the expenditures. A balance is struck, and clearly shows whether the stock on hand, the credit with the quartermaster, and the unexpended cash are sufficient for running the mess for the number of days remaining in the ration period.

(Note. Geo. Banta Publishing Co., Menasha, Wis., print an excellent blank form, "Bill of Fare and Mess Expenditures and Receipts," which enables the company commander to keep an accurate daily tab on the financial condition of the mess. Price, \$1 per 100, prepaid.)

He is responsible for the care and preservation of the rations and sees that fresh vegetables are picked over when first received. Those decayed should be returned to the quartermaster; others not in first-class condition should be washed and dried before storing.

He has the cooks' white clothing laundered, mended, and replaced when worn out.

He frequently checks the dishes and utensils for which he is responsible, and submits at the end of the month a list of all broken or missing articles, with the names of the soldiers against whom charges for the same should be entered.

He has the ice box scrubbed with soap and hot water every day just before the ice is delivered. He requires that all utensils, including those of the field equipment are kept clean and in their proper places when not in use.

He requires that the man detailed as kitchen police report not later than 10 minutes before mess call for breakfast and that they absent themselves only by authority or in case of actual necessity.

He is present in a clean white coat and trousers 30 minutes before mess call and personally supervises the final preparation of the food and the service of the meals.

He is responsible for the orderly conduct of those present at meals, that all enter the dining-room in proper uniform in a quiet and orderly manner and with hands and faces washed and hair combed.

He has the kitchen and dining-room prepared for inspection at the time appointed by the company commander.

He sees that all the seats at the tables are occupied in succession, beginning with the table farthest away from the entrance. He prevents loud talking and other unnecessary noises and requires that the men wait quietly at their places until the food is passed to them. He prevents them from wasting food by taking more on their plates than they will eat. Food left on the plates is not used again; that which remains on the platters, serving dishes, etc., is returned to the kitchen, to be served in some palatable form at a subsequent meal.

He has the garbage and slop cans frequently emptied, and does not allow them to stand in the kitchen or near the outside doors. Tin cans and other noncombustible materials must not be mixed with slops in garbage cans. The garbage is frequently burned in the crematory and cans clog up the grates. If the slops are carried away for hogs, cans and glass are a great nuisance.

In addition to the above, which, as already stated, is prescribed by the Manual for Army Cooks, the following regulations also govern in every well-regulated company:

The Mess Sergeant is especially charged with seeing that the dining-room, kitchen and storeroom and everything pertaining thereto, are in a clean, ship-shape condition for Saturday morning and other inspections, and that all boxes, barrels and other receptacles containing supplies are opened at inspections.

Once each week (usually on Friday) he will have *everything* removed from *all* shelves in the storeroom, dining-room and kitchen, and have the shelves thoroughly cleaned.

He will see that no men loiter in the dining-room or kitchen, and that no food is given to unauthorized persons.

The cooks and kitchen police are subject to his orders.

64. Suggestions to mess sergeants. The following, under the heading of, "Suggestions to mess sergeants," is from the Manual for Army Cooks:

The bills of fare should vary constantly. For each meal there should be at least one dish that has not been served for some time.

Seasonings penetrate foods best in the liquid or semiliquid state and much more quickly when hot than when cold, and consequently any amount of seasoning after the food is placed on the table can not compensate for insufficient or careless seasoning while in the course of preparation.

The prevention of waste and the proper use of left-over food is the secret of success in company kitchens.

The kitchen and storeroom should be kept scrupulously neat and the men required to clean up immediately after finishing each piece of work. Floors and tables should not be allowed to remain littered up after the necessity therefor has ceased. A piece of food left on the floor is sure to be stepped on, and will make dozens of spots instead of one. Cleanliness should be the first lesson taught.

The kitchen force should at all times present a neat, clean appearance. Especially should the cooks be clean as regards their toilet, as they are continually called upon to mix with their hands such articles as cakes, hashes, etc., and to handle nearly all food products in preparation for cooking. Men with dirty hands or untrimmed dirty fingernails communicate filth and disease germs to foodstuffs which they handle.

Each man should have definite duties assigned to him, for which he should be held solely responsible. Work must not be assigned in a general way to the kitchen force. If this is done, it frequently happens that some part of it is neglected and each man claims that he is not responsible.

No kitchen can be managed successfully unless each man knows what is expected of him. Should there be a failure on the part of anyone to perform his share of work, the responsibility should be fixed at once and punishment follow immediately.

Only those articles and cooking utensils being used in the kitchen or dining room should be kept by the mess sergeant. Other articles should be turned over to the supply sergeant so that they may be held in reserve to replace similar ones that may later become unserviceable. Moreover these surplus articles must be kept clean and this requires unnecessary labor.

Kitchens and adjoining rooms must be kept clean at all times. Such things as empty boxes and crates should not be allowed to accumulate. They litter up the storerooms and cellars and are very unsightly.

In cleaning shelves which are located in tiers, it is always best to commence with the topmost tier and work down. Otherwise the shelves underneath will be littered in cleaning those above.

The men should not spend all their time scouring the outside of boilers, pots, and pans. Let them spend some of that energy on the inside. The parts of the kitchen utensils which come in contact with the food are the most important and should receive the first and greatest attention. See to it that the inside of meat choppers and faucets on boilers are thoroughly cleaned, that the inside of bake pans, frying pans, boilers, and dish pans are well scoured, that the tines of forks and the junction of the blades and handles of knives and steels are clean—then attack the other parts. A kitchen may look very well to a superficial observer and still be extremely insanitary.

Each dish placed upon the table should be accompanied by a knife, fork, spoon, or ladle with which to serve the food contained therein. Men should not be allowed to serve themselves using their individual knives, forks, or spoons. Such a practice is not only disgusting but is a medium through which disease is transmitted from one person to another.

In cutting meat preparatory to serving, it should be held by a fork and not the hand, and after cutting, it should be transferred from the cutting board to the serving platters by the use of forks, skimmers, or other suitable utensils. The meat should never be handled with the hands. Frequently men put their hands in the lard in removing it from the tubs. This should not be permitted. Men who do such things are usually those who do not practice personal cleanliness and must be watched carefully in order to prevent them from transmitting disease to others.

Food that is liable to deteriorate should not be purchased in large quantities. In purchasing perishable articles, such as green onions, lettuce, radishes, etc., a supply for only one meal should be bought. Such vegetables are best when first picked.

Unless flour, corn meal, and other cereals can be kept in sealed metal containers, they should be purchased in lots sufficient only for three or four days. The accumulation of a large supply is apt to result in loss because of rats and mice. In summer fresh meat should be purchased in small quantities.

The warm weather of spring causes onions to sprout, particularly those that have been stored for some time. If not trimmed, these sprouts will sap the strength of the onion and render the vegetable useless. Cutting the sprouts helps to preserve onions. Furthermore the cut sprouts may advantageously be used in the kitchen in the preparation of soups, stews, hash, etc.

Whenever celery is served the tops should be cut off and used for seasoning. The cut tops may be placed in a paper bag and permitted to dry out. When dry they crumble like dead leaves but do not lose their strength for seasoning purposes.

Every effort should be made to keep flies out of the kitchen, dining-room, and storerooms. They live and breed in places of filth where the germs of many diseases are most numerous. They light in germ-laden filth, a part of which clings to their feet and is carried away on them. The fly afterwards lights on the food and contaminates it with this filth and disease. In this way dysentery, diarrhea, typhoid fever, and other diseases are transmitted. Screening of doors and windows is absolutely necessary, and it is important to keep the screens closed whenever it is possible to do so and to keep the vicinity of the screen doors free from anything that attracts flies. Flies avoid dark places, and for that reason the dining-room and kitchen should be kept darkened whenever it is convenient. When the police of the dining-room is finished, it should be darkened.

All food in the kitchen and pantry should be kept covered whenever practicable, and all floors, tables, and table and kitchen ware should be cleaned after being used and should be kept free at all times possible from anything that attracts flies. Garbage stands should be kept whitewashed and the cans covered. The ground around the kitchen should be always so well policed that flies will not gather there.

Properly constructed flytraps are very effective in keeping down the flies. In camp they may be destroyed by burning out, with a torch after nightfall, the sides and roof of the kitchen tent. If the kitchen is darkened by drawing all the shades except one, which is kept raised about a foot, the flies gather on the lighted window sill and may be easily killed. A poison that kills flies but is harmless to man is made by placing in a shallow dish a solution of 2 ounces of water, a little sugar, and 1 dram of bichromate of potash.

It is important to kill the first flies of the season. One fly in May will probably have a peck of descendants by September; therefore he should be destroyed before he can commence to breed.

Rats, mice, and cockroaches are also carriers of disease and filth and destroyers of property. Like flies, they travel in filth and carry it on their feet to everything they touch. Unlike flies, they seek dark places where germs are most numerous. A good cat is the best protection against rats and mice. Cockroaches come out after dark and may be killed with a fly swatter, and also may be kept in check by means of roach powders sold on the market.

Considerable labor may be saved by the use of a piece of canvas 6 feet wide and from 10 to 14 feet long. After each meal has been served and the utensils emptied, the canvas is spread in front of the sink and all the utensils to be washed are placed thereon. Each utensil after being washed is returned to its proper place and the canvas taken up and hung out in the air. This not only protects the floor from sooty pots and boilers but also from grease that may fall from pans and from the sink.

See, "Duties of the dining-room orderly," par. 275, and, "Duties of the cooks' police," par. 276, "Manual for Army Cooks" (1916).

CHAPTER VII

NONCOMMISSIONED OFFICERS IN CHARGE OF RECRUITS

65. General remarks. The recruit is, of course, ignorant of all military matters, but he is usually willing to learn and will submit without complaint to more hours of instruction than ever afterwards in his military career. Much of his unsoldierly conduct and awkwardness—from which he frequently reaps humiliation through harsh and ill-considered correction—is the direct result of his ignorance for which he is in no way responsible, and this ignorance should be removed by patient and systematic instruction.

Explain to the recruit that there is a great deal in the service besides brass buttons and dress parades. There is plenty of hard work to do, some of it disagreeable work, but it is all necessary, and should be done cheerfully. After his first difficulties are over, he will find much of interest and benefit in the service.

Tell him that he is not expected to know everything or do everything correctly at first; but he is expected to be attentive and careful, and above all to do whatever he is told to do by his officers and noncommissioned officers.

Impress upon him the importance of starting off right in his career as a soldier.

Let him know that while his officers and noncommissioned officers are forbidden to be harsh or abusive, they are required to be firm and to see that the recruit does his work promptly and properly.

Advise him of the fact that if at any time he thinks he is not being rightly treated, he may get permission from the First Sergeant to speak to his company commander and lay the facts before him, and that his company commander will see that he receives justice. Instruct him when and where to find the company commander and how to present himself. Thus: He will stand at attention, three or four paces in front of the company commander, salute and say, for instance, "Sir, Private Smith has permission to speak to the Captain," and then briefly state his case. Caution him about never referring to an officer as "you" and to end all statements by "sir." (See "Forms of Speech," par. 77.) When dismissed by the company commander, the recruit will salute, execute

about face and leave. Should the First Sergeant refuse the recruit permission to speak to the company commander, the recruit, if his complaint be sufficiently serious, may go to the company commander direct, reporting the fact that the First Sergeant refused to give him permission to see the company commander.

While firm and thorough, noncommissioned officers in charge of recruits should be patient and considerate with recruits—by their bearing, speech and appearance, they should set an example for the young soldier. They should remember that the life of the recruit is the most trying part of a soldier's career—that the work and requirements being new and strange, they seem to the recruit in many ways useless and at times even degrading. Some recruits, for instance, misunderstand the nature of the salute and failing to see any necessity therefor, are averse to saluting officers. The reason and significance of the salute, therefore, as well as all other things the recruit does not understand, should be carefully explained to him, and as often as may be necessary. He should be told there is a *reason* for everything that he is required to do, and that study and hard work on the part of experienced officers has shown that not only are salutes, setting-up exercises, squad drills, etc., necessary to make a soldier out of a man, but that they are the best and quickest means of attaining that end.

The setting-up exercises, for example, in addition to giving a man a military bearing, render his limbs more supple, thereby giving him better control of them; they also develop and strengthen the muscles and other parts of the body, so that the soldier may be better able to endure any physical exertion and hardship that he may be required to undergo in garrison, in camp, on the march or in battle.

The squad drill gives an elastic step, enabling the recruit to walk and carry himself like a soldier; it accustoms him to respond at once to commands, so that he may be quickly and easily handled on the field of battle.

All instruction given the recruits has but one final object in view:

*To prepare and fit him for the crucial test—***What to Do on the Field of Battle and How to Do it.**

As a rule, an infantry recruit is given instruction about three hours a day for thirty days or so, before being taken up for guard, police and other duty; cavalry and artillery recruits generally require longer periods of instruction. The several daily periods of instruction should

not exceed 45 minutes each—if they do, the recruit's mind will become tired and his attention will lag.

The following general scheme of instruction is merely given as a guide.

FIRST TEN DAYS

Individual Instruction Without Arms. Setting-up exercises, salutes with the hand, marchings, etc.

Barrack Regulations. The regulations of the company concerning the conduct of the men in barracks will be explained.

Post Orders. All post orders regarding the conduct of enlisted men will be read and explained.

ARTICLES OF WAR

66. The following Articles of War, which, according to the 110th Article, are required to be read and explained to every soldier at the time of his enlistment or muster in, and thereafter once every six months, should be read and carefully explained to the recruit:

"Article 1. Definitions: The following words when used in these articles shall be construed in the sense indicated in this article, unless the context shows that a different sense is intended, namely:

"(a) The word 'officer' shall be construed to refer to a commissioned officer;

"(b) The word 'soldier' shall be construed as including a non-commissioned officer, a private, or any other enlisted man;

"(c) The word 'company' shall be understood as including a troop or battery; and

"(d) The word 'battalion' shall be understood as including a squadron.

"Art. 2. Persons subject to military law. The following persons are subject to these articles and shall be understood as included in the term 'any person subject to military law,' or 'persons subject to military law,' whenever used in these articles: *Provided*, That nothing contained in this act, except as specifically provided in article 2, subparagraph (c), shall be construed to apply to any person under the United States naval jurisdiction, unless otherwise specifically provided by law.

"(a) All officers and soldiers belonging to the Regular Army of the United States, all volunteers, from the dates of their muster or acceptance into the military service of the United States; and all other persons lawfully called, drafted, or ordered into, or to duty or for training in, the said service, from the dates they are required by the terms of the call, draft, or order to obey the same;

“(b) Cadets;

“(c) Officers and soldiers of the Marine Corps when detached for service with the armies of the United States by order of the President. *Provided*, That an officer or soldier of the Marine Corps when so detached may be tried by military court-martial for an offense committed against the laws for the government of the naval service prior to his detachment and for an offense committed against these articles he may be tried by a naval court-martial after such detachment ceases;

“(d) All retainers to the camp and all persons accompanying or serving with the armies of the United States without the territorial jurisdiction of the United States, and in time of war all such retainers and persons accompanying or serving with the armies of the United States in the field, both within and without the territorial jurisdiction of the United States, though not otherwise subject to these articles;

“(e) All persons under sentence adjudged by courts-martial;

“(f) All persons admitted into the Regular Army Soldiers' Home at Washington, D. C.

“**Art. 29. ENLISTMENT WITHOUT DISCHARGE.** Any soldier who, without having first received a regular discharge, again enlists in the Army, or in the militia when in the service of the United States, or in the Navy or Marine Corps of the United States, or in any foreign army, shall be deemed to have deserted the service of the United States; and, where the enlistment is in one of the forces of the United States mentioned above, to have fraudulently enlisted therein.

“**Art. 54. Fraudulent enlistment.** Any person who shall procure himself to be enlisted in the military service of the United States by means of willful misrepresentation or concealment as to his qualifications for enlistment and shall receive pay or allowances under such enlistment, shall be punished as a court-martial may direct.

“**Art. 55. Officer making unlawful enlistment.** Any officer who knowingly enlists or musters into the military service any person whose enlistment or muster in is prohibited by law, regulations, or orders shall be dismissed from the service or suffer such other punishment as a court-martial may direct.

“**Art. 56. Muster rolls—False muster.** At every muster of a regiment, troop, battery, or company the commanding officer thereof shall give to the mustering officer certificates, signed by himself, stating how long absent officers have been absent and the reasons of their absence. And the commanding officer of every troop, battery, or company shall give like certificates, stating how long absent noncommissioned officers and

private soldiers have been absent and the reasons of their absences. Such reasons and time of absence shall be inserted in the muster rolls opposite the names of the respective absent officers and soldiers, and the certificates, together with the muster rolls, shall be transmitted by the mustering officer to the Department of War as speedily as the distance of the place and muster will admit. Any officer who knowingly makes a false muster of man or animal, or who signs or directs or allows the signing of any muster roll knowing the same to contain a false muster or false statement as to the absence or pay of an officer or soldier, or who wrongfully takes money or other consideration on mustering in a regiment, company, or other organization, or on signing muster rolls, or who knowingly musters as an officer or soldier a person who is not such officer or soldier, shall be dismissed from the service and suffer such other punishment as a court-martial may direct.

"Art. 57. False returns—Omission to render returns. Every officer commanding a regiment, an independent troop, battery, or company, or a garrison, shall, in the beginning of every month, transmit through the proper channels, to the Department of War, an exact return of the same, specifying the names of the officers then absent from their posts, with the reasons for and the time of their absence. Every officer whose duty it is to render to the War Department or other superior authority a return of the state of the troops under his command, or of the arms, ammunition, clothing, funds, or other property thereunto belonging, who knowingly makes a false return thereof shall be dismissed from the service and suffer such other punishment as a court-martial may direct. And any officer who, through neglect or design, omits to render such return shall be punished as a court-martial may direct.

"B. DESERTION; ABSENCE WITHOUT LEAVE

"Art. 58. Desertion. Any person subject to military law who deserts or attempts to desert the service of the United States shall, if the offense be committed in time of war, suffer death or such other punishment as a court-martial may direct, and, if the offense be committed at any other time, any punishment, excepting death, that a court-martial may direct.

"Art. 59. Advising or aiding another to desert. Any person subject to military law who advises or persuades or knowingly assists another to desert the service of the United States shall, if the offense be committed in time of war, suffer death, or such other punishment as a court-martial may direct, and if the offense be committed at any other time, any punishment, excepting death, that a court-martial may direct.

"Art. 60. Entertaining a deserter. Any officer who, after having discovered that a soldier in his command is a deserter from the military or naval service or from the Marine Corps, retains such deserter in his command without informing superior authority or the commander of the organization to which the deserter belongs, shall be punished as a court-martial may direct.

"Art. 61. Absence without leave. Any person subject to military law who fails to repair at the fixed time to the properly appointed place of duty, or goes from the same without proper leave, or absents himself from his command, guard, quarters, station, or camp without proper leave, shall be punished as a court-martial may direct.

"C. DISRESPECT; INSUBORDINATION; MUTINY

"Art. 62. Disrespect toward the President, Vice-president, Congress, Secretary of War, governors, legislatures. Any officer who uses contemptuous or disrespectful words against the President, Vice-president, the Congress of the United States, the Secretary of War, or the governor or legislature of any State, Territory, or other possession of the United States in which he is quartered shall be dismissed from the service or suffer such other punishment as a court-martial may direct. Any other person subject to military law who so offends shall be punished as a court-martial may direct.

"Art. 63. Disrespect toward superior officers. Any person subject to military law who behaves himself with disrespect toward his superior officer shall be punished as a court-martial may direct.

"Art. 64. Assaulting or willfully disobeying superior officer. Any person subject to military law who, on any pretense whatsoever, strikes his superior officer or draws or lifts up any weapon or offers any violence against him, being in the execution of his office, or willfully disobeys any lawful command of his superior officer, shall suffer death or such other punishment as a court-martial may direct.

"Art. 65. Insubordinate conduct toward noncommissioned officer. Any soldier who strikes or assaults, or who attempts or threatens to strike or assault, or willfully disobeys the lawful order of a noncommissioned officer while in the execution of his office, or uses threatening or insulting language, or behaves in an insubordinate or disrespectful manner toward a noncommissioned officer while in the execution of his office, shall be punished as a court-martial may direct.

"Art. 66. Mutiny or sedition. Any person subject to military law who attempts to create or who begins, excites, causes, or joins in any mutiny or sedition in any company, party, post, camp, detachment, guard

or other command shall suffer death or such other punishment as a court-martial may direct.

Art. 67. Failure to suppress mutiny or sedition. Any officer or soldier who, being present at any mutiny or sedition, does not use his utmost endeavor to suppress the same, or knowing or having reason to believe that a mutiny or sedition is to take place, does not without delay give information thereof to his commanding officer shall suffer death or such other punishment as a court-martial may direct.

"Art. 68. Quarrels; frays; disorders. All officers and non-commissioned officers have power to part and quell all quarrels, frays, and disorders among persons subject to military law and to order officers who take part in the same into arrest, and other persons subject to military law who take part in the same into arrest or confinement as circumstances may require, until their proper superior officer is acquainted therewith. And whosoever, being so ordered, refuses to obey such officer or noncommissioned officer or draws a weapon upon or otherwise threatens or does violence to him shall be punished as a court-martial may direct.

"D. ARREST; CONFINEMENT

"Art. 69. Arrest or confinement of accused persons. An officer charged with crime or with a serious offense under these articles shall be placed in arrest by the commanding officer, and in exceptional cases an officer so charged may be placed in confinement by the same authority. A soldier charged with crime or with a serious offense under these articles shall be placed in confinement, and when charged with a minor offense he may be placed in arrest. Any other person subject to military law charged with crime or with a serious offense under these articles shall be placed in confinement or arrest, as circumstances may require; and when charged with a minor offense such person may be placed in arrest. Any person placed in arrest under the provisions of this article shall thereby be restricted to his barracks, quarters, or tent, unless such limits shall be enlarged by proper authority. Any officer who breaks his arrest or who escapes from confinement before he is set at liberty by proper authority shall be dismissed from the service or suffer such other punishment as a court-martial may direct; and any other person subject to military law who escapes from confinement or who breaks his arrest before he is set at liberty by proper authority shall be punished as a court-martial may direct.

"Art. 70 Investigation of and action upon charges. No person put in arrest shall be continued in confinement more than

eight days, or until such time as a court-martial can be assembled. When any person is put in arrest for the purpose of trial, except at remote military posts or stations, the officer by whose order he is arrested shall see that a copy of the charges on which he is to be tried is served upon him within eight days after his arrest, and that he is brought to trial within ten days thereafter, unless the necessities of the service prevent such trial; and then he shall be brought to trial within thirty days after the expiration of said ten days. If a copy of the charges be not served, or the arrested person be not brought to trial, as herein required, the arrest shall cease. But persons released from arrest, under the provisions of this article, may be tried, whenever the exigencies of the service shall permit, within twelve months after such release from arrest: *Provided*, That in time of peace no person shall, against his objection, be brought to trial before a general court-martial within a period of five days subsequent to the service of charges upon him.

"Art. 71. Refusal to receive and keep prisoners. No provost marshal or commander of a guard shall refuse to receive or keep any prisoner committed to his charge by an officer belonging to the forces of the United States, provided the officer committing shall, at the time, deliver an account in writing signed by himself, of the crime or offense charged against the prisoner. Any officer or soldier so refusing shall be punished as a court-martial may direct.

"Art. 72. Report of prisoners received. Every commander of a guard to whose charge a prisoner is committed shall, within twenty-four hours after such confinement, or as soon as he is relieved from his guard, report in writing to the commanding officer the name of such prisoner, the offense charged against him, and the name of the officer committing him; and if he fails to make such report he shall be punished as a court-martial may direct.

"Art. 73. Releasing prisoner without proper authority. Any person subject to military law who, without proper authority, releases any prisoner duly committed to his charge, or who, through neglect or design, suffers any prisoner so committed to escape, shall be punished as a court-martial may direct.

"Art. 74. Delivery of offender to civil authorities. When any person subject to military law, except one who is held by the military authorities to answer, or who is awaiting trial or result of trial, or who is undergoing sentence for a crime or offense punishable under these articles, is accused of a crime or offense committed within the geographical limits of the States of the Union and the District

of Columbia, and punishable by the laws of the land, the commanding officer is required, except in time of war, upon application duly made to use his utmost endeavor to deliver over such accused person to the civil authorities, or to aid the officers of justice in apprehending and securing him, in order that he may be brought to trial. Any commanding officer who upon such application refuses or willfully neglects, except in time of war, to deliver over such accused person to the civil authorities or to aid the officers of justice in apprehending and securing him, shall be dismissed from the service or suffer such other punishment as a court-martial may direct.

"When under the provisions of this article delivery is made to the civil authorities of an offender undergoing sentence of a court-martial, such delivery, if followed by conviction, shall be held to interrupt the execution of the sentence of the court-martial, and the offender shall be returned to military custody, after having answered to the civil authorities for his offense, for the completion of the said court-martial sentence.

"E. WAR OFFENSES

"Art. 75. Misbehavior before the enemy. Any officer or soldier who misbehaves himself before the enemy, runs away, or shamefully abandons or delivers up any fort, post, camp, guard, or other command which it is his duty to defend, or speaks words inducing others to do the like, or casts away his arms or ammunition, or quits his post or colors to plunder or pillage, or by any means whatsoever occasions false alarms in camp, garrison, or quarters, shall suffer death or such other punishment as a court-martial may direct.

"Art. 76. Subordinates compelling commander to surrender. If any commander of any garrison, fort, post, camp, guard, or other command is compelled by the officers or soldiers under his command to give it up to the enemy or to abandon it, the officers or soldiers so offending shall suffer death or such other punishment as a court-martial may direct.

"Art. 77. Improper use of countersign. Any person subject to military law who makes known the parole or countersign to any person not entitled to receive it according to the rules and discipline of war, or gives a parole or countersign different from that which he received, shall, if the offense be committed in time of war, suffer death or such other punishment as a court-martial may direct.

"Art. 78. Forcing a safeguard. Any person subject to military law who, in time of war, forces a safeguard shall suffer death or such other punishment as a court-martial may direct.

"Art. 79. Captured property to be secured for public service. All public property taken from the enemy is the property of the United States and shall be secured for the service of the United States, and any person subject to military law who neglects to secure such property or is guilty of wrongful appropriation thereof shall be punished as a court-martial may direct.

"Art. 80. Dealing in captured or abandoned property. Any person subject to military law who buys, sells, trades, or in any way deals in or disposes of captured or abandoned property, whereby he shall receive or expect any profit, benefit, or advantage to himself or to any other person directly or indirectly connected with himself, or who fails whenever such property comes into his possession or custody or within his control to give notice thereof to the proper authority, and to turn over such property to the proper authority without delay, shall, on conviction thereof, be punished by fine or imprisonment, or by such other punishment as a court-martial, military commission, or other military tribunal may adjudge, or by any or all of said penalties.

"Art. 81. Relieving, corresponding with, or aiding the enemy. Whosoever relieves the enemy with arms, ammunition, supplies, money, or other thing, or knowingly harbors or protects or holds correspondence with or gives intelligence to the enemy, either directly or indirectly, shall suffer death, or such other punishment as a court-martial or military commission may direct.

"Art. 82. Spies. Any person who in time of war shall be found lurking or acting as a spy in or about any of the fortifications, posts, quarters, or encampments of any of the armies of the United States, or elsewhere, shall be tried by a general court-martial or by a military commission, and shall, on conviction thereof, suffer death.

"F. MISCELLANEOUS CRIMES AND OFFENSES

"Art. 83. Military property—Willful or negligent loss, damage, or wrongful disposition of. Any person subject to military law who willfully or through neglect suffers to be lost, spoiled, damaged or wrongfully disposed of, any military property belonging to the United States shall make good the loss or damage and suffer such punishment as a court-martial may direct.

"Art. 84. Waste or unlawful disposition of military property issued to soldiers. Any soldier who sells or wrongfully disposes

of or willfully or through neglect injures or loses any horse, arms, ammunition, accouterments, equipment, clothing, or other property issued for use in the military service, shall be punished as a court-martial may direct.

"Art. 85. Drunk on duty. Any officer who is found drunk on duty shall, if the offense be committed in time of war, be dismissed from the service and suffer such other punishment as a court-martial may direct; and if the offense be committed in time of peace, he shall be punished as a court-martial may direct. Any person subject to military law, except an officer, who is found drunk on duty, shall be punished as a court-martial may direct.

"Art. 86. Misbehavior of sentinel. Any sentinel who is found drunk or sleeping upon his post, or who leaves it before he is regularly relieved, shall, if the offense be committed in time of war, suffer death or such other punishment as a court-martial may direct; and if the offense be committed in time of peace, he shall suffer any punishment, except death, that a court-martial may direct.

"Art. 87. Personal interest in sale of provisions. Any officer commanding in any garrison, fort, barracks, camp, or other place where troops of the United States may be serving who, for his private advantage, lays any duty or imposition upon or is interested in the sale of any victuals or other necessities of life brought into such garrison, fort, barracks, camp, or other place for the use of the troops, shall be dismissed from the service and suffer such other punishment as a court-martial may direct.

"Art. 88. Intimidation of persons bringing provisions. Any person subject to military law who abuses, intimidates, does violence to, or wrongfully interferes with any person bringing provisions, supplies, or other necessities to the camp, garrison, or quarters of the forces of the United States shall suffer such punishment as a court-martial may direct.

"Art. 89. Good order to be maintained and wrongs redressed. All persons subject to military law are to behave themselves orderly in quarters, garrison, camp, and on the march; and any person subject to military law who commits any waste or spoil, or willfully destroys any property whatsoever (unless by order of his commanding officer), or commits any kind of depredation or riot, shall be punished as a court-martial may direct. Any commanding officer who, upon complaint made to him, refuses or omits to see reparation made to the party injured, insofar as the offender's pay shall go toward such reparation, as provided for in

article 105, shall be dismissed from the service or otherwise punished as a court-martial may direct.

"Art. 90. Provoking speeches or gestures. No person subject to military law shall use any reproachful or provoking speeches or gestures to another; and any person subject to military law who offends against the provisions of this article shall be punished as a court-martial may direct.

"Art. 91. Dueling. Any person subject to military law who fights or promotes or is concerned in or connives at fighting a duel, or who having knowledge of a challenge sent or about to be sent fails to report the fact promptly to the proper authority, shall, if an officer, be dismissed from the service or suffer such other punishment as a court-martial may direct; and if any other person subject to military law shall suffer such punishment as a court-martial may direct.

"Art. 92. MURDER—RAPE. Any person subject to military law who commits murder or rape shall suffer death or imprisonment for life, as a court-martial may direct; but no person shall be tried by court-martial for murder or rape committed within the geographical limits of the States of the Union and the District of Columbia in time of peace.

"Art. 93. Various crimes. Any person subject to military law who commits manslaughter, mayhem, arson, burglary, robbery, larceny, embezzlement, perjury, assault with intent to commit any felony, or assault with intent to do bodily harm, shall be punished as a court-martial may direct.

"Art. 94. Frauds against the Government. Any person subject to military law who makes or causes to be made any claim against the United States or any officer thereof, knowing such claim to be false or fraudulent; or

"Who presents or causes to be presented to any person in the civil or military service thereof, for approval or payment, any claim against the United States or any officer thereof, knowing such claim to be false or fraudulent; or

"Who enters into any agreement or conspiracy to defraud the United States by obtaining, or aiding others to obtain, the allowance or payment of any false or fraudulent claim; or

"Who, for the purpose of obtaining, or aiding others to obtain, the approval, allowance, or payment of any claim against the United States or against any officer thereof, makes or uses, or procures, or advises the making or use of, any writing or other paper, knowing the same to contain any false or fraudulent statements; or

"Who, for the purpose of obtaining, or aiding others to obtain, the approval, allowance, or payment of any claim against the United States or any officer thereof, makes, or procures, or advises the making of any oath to any fact or to any writing or other paper, knowing such oath to be false; or

"Who, for the purpose of obtaining, or aiding others to obtain, the approval, allowance, or payment of any claim against the United States or any officer thereof, forges or counterfeits, or procures, or advises the forging or counterfeiting of any signature upon any writing or other paper, or uses, or procures, or advises the use of any such signature, knowing the same to be forged or counterfeited; or

"Who, having charge, possession, custody, or control of any money or other property of the United States, furnished or intended for the military service thereof, knowingly delivers, or causes to be delivered, to any person having authority to receive the same, any amount thereof less than that for which he receives a certificate or receipt; or

"Who, being authorized to make or deliver any paper certifying the receipt of any property of the United States furnished or intended for the military service thereof, makes or delivers to any person such writing, without having full knowledge of the truth of the statements therein contained and with intent to defraud the United States; or

"Who steals, embezzles, knowingly and willfully misappropriates, applies to his own use or benefit, or wrongfully or knowingly sells or disposes of any ordnance, arms, equipments, ammunition, clothing, subsistence stores, money, or other property of the United States furnished or intended for the military service thereof; or

"Who knowingly purchases or receives in pledge for any obligation or indebtedness from any soldier, officer, or other person who is a part of or employed in said forces or service, any ordnance, arms, equipment, ammunition, clothing, subsistence stores, or other property of the United States, such soldier, officer, or other person not having lawful right to sell or pledge the same;

"Shall, on conviction thereof, be punished by a fine or imprisonment, or by such other punishment as a court-martial may adjudge, or by any or all of said penalties. And if any person, being guilty of any of the offenses aforesaid while in the military service of the United States, receives his discharge or is dismissed from the service, he shall continue to be liable to be arrested and held for trial and sentence by a court-martial in the same manner and to the same extent as if he had not received such discharge nor been dismissed.

"Art. 95. Conduct unbecoming an officer and gentleman.

Any officer or cadet who is convicted of conduct unbecoming an officer and a gentleman shall be dismissed from the service.

"Art. 96. General Article.

Though not mentioned in these articles, all disorders and neglects to the prejudice of good order and military discipline, all conduct of a nature to bring discredit upon the military service, and all crimes or offenses not capital, of which persons subject to military law may be guilty, shall be taken cognizance of by a general or special or summary court-martial, according to the nature and degree of the offense, and punished at the discretion of such court.

"V. MISCELLANEOUS PROVISIONS**"Art. 104. Disciplinary powers of commanding officers.**

Under such regulations as the President may prescribe, and which he may from time to time revoke, alter, or add to, the commanding officer of any detachment, company, or higher command may, for minor offenses not denied by the accused, impose disciplinary punishments upon persons of his command without the intervention of a court-martial, unless the accused demands trial by court-martial.

"The disciplinary punishments authorized by this article may include admonition, reprimand, withholding of privileges, extra fatigue, and restriction to certain specified limits, but shall not include forfeiture of pay or confinement under guard. A person punished under authority of this article who deems his punishment unjust or disproportionate to the offense may, through the proper channel, appeal to the next superior authority, but may in the meantime be required to undergo the punishment adjudged. The commanding officer who imposes the punishment, his successor in command, and superior authority shall have power to mitigate or remit any unexecuted portion of the punishment. The imposition and enforcement of disciplinary punishment under authority of this article for any act or omission shall not be a bar to trial by court-martial for a crime or offense growing out of the same act or omission; but the fact that disciplinary punishment has been enforced may be shown by the accused upon trial, and when so shown shall be considered in determining the measure of punishment to be adjudged in the event of a finding of guilty.

"Art. 105. Injuries to person or property—Redress of.

Whenever complaint is made to any commanding officer that damage has been done to the property of any person or that his property has been wrongfully taken by persons subject to military law, such complaint shall be investigated by a board consisting of any number of officers from

one to three, which board shall be convened by the commanding officer and shall have, for the purpose of such investigation, power to summon witnesses and examine them upon oath or affirmation, to receive depositions or other documentary evidence, and to assess the damages sustained against the responsible parties. The assessment of damages made by such board shall be subject to the approval of the commanding officer, and in the amount approved by him shall be stopped against the pay of the offenders. And the order of such commanding officer directing stoppages herein authorized shall be conclusive on any disbursing officer for the payment by him to the injured parties of the stoppages so ordered.

"Where the offenders can not be ascertained, but the organization or detachment to which they belong is known, stoppages to the amount of damages inflicted may be made and assessed in such proportion as may be deemed just upon the individual members thereof who are shown to have been present with such organization or detachment at the time the damages complained of were inflicted as determined by the approved findings of the board.

"Art. 106. Arrest of deserters by civil officials. It shall be lawful for any civil officer having authority under the laws of the United States, or of any State, Territory, District, or possession of the United States, to arrest offenders, summarily to arrest a deserter from the military service of the United States and deliver him into the custody of the military authorities of the United States.

"Art. 107. Soldiers to make good time lost. Every soldier who in an existing or subsequent enlistment deserts the service of the United States or without proper authority absents himself from his organization, station, or duty for more than one day, or who is confined for more than one day under sentence, or while awaiting trial and disposition of his case, if the trial results in conviction, or through the intemperate use of drugs or alcoholic liquor, or through disease or injury the result of his own misconduct, renders himself unable for more than one day to perform duty, shall be liable to serve, after his return to a full-duty status, for such period as shall, with the time he may have served prior to such desertion, unauthorized absence, confinement, or inability to perform duty, amount to the full term of that part of his enlistment period which he is required to serve with his organization before being furloughed to the Army Reserve.

"Art. 108. Soldiers—Separation from the service. No enlisted man, lawfully inducted into the military service of the United States, shall be discharged from said service without a certificate of dis-

charge signed by a field officer of the regiment or other organization to which the enlisted man belongs or by the commanding officer when no such field officer is present; and no enlisted man shall be discharged from said service before his term of service has expired, except by order of the President, the Secretary of War, the commanding officer of a department, or by sentence of a general court-martial.

"Art. 109. Oath of enlistment. At the time of his enlistment every soldier shall take the following oath or affirmation: 'I, ———, do solemnly swear (or affirm) that I will bear true faith and allegiance to the United States of America; that I will serve them honestly and faithfully against all their enemies whomsoever; and that I will obey the orders of the President of the United States and the orders of the officers appointed over me, according to the Rules and Articles of War.' This oath or affirmation may be taken before any officer."

67.

ARMY REGULATIONS

(The Army Regulation paragraph numbers follow each paragraph in parentheses.)

Read and explain the following extracts from the Army Regulations:

Obedience. All persons in the military service are required to obey strictly and to execute promptly the lawful orders of their superiors. (1)

Exercise of military authority. Military authority will be exercised with firmness, kindness, and justice. Punishments must conform to law and follow offenses as promptly as circumstances will permit. (2)

Tyrannical conduct and abusive language. Superiors are forbidden to injure those under their authority by tyrannical or capricious conduct or by abusive language. While maintaining discipline and the thorough and prompt performance of military duty, all officers, in dealing with enlisted men, will bear in mind the absolute necessity of so treating them as to preserve their self-respect. Officers will keep in as close touch as possible with the men under their command and will strive to build up such relations of confidence and sympathy as will insure the free approach of their men to them for counsel and assistance. This relationship may be gained and maintained without relaxation of the bonds of discipline and with great benefit to the service as a whole. (3)

Courtesy. Courtesy among military men is indispensable to discipline; respect to superiors will not be confined to obedience on duty, but will be extended on all occasions. (4)

Deliberations or discussions; efforts to influence legislation.

Deliberations or discussions among military men conveying praise or censure, or any mark of approbation, towards others in the military service, and all publications relating to private or personal transactions between officers are prohibited. Efforts to influence legislation affecting the army, or to procure personal favor or consideration, should never be made, except through regular military channels; the adoption of any other method by any officer or enlisted man will be noted in the military record of those concerned. (5)

Furloughs. A furlough will not be granted a soldier about to be discharged, nor shall the number of men furloughed from any command exceed 5 per cent of the enlisted strength present therein. (106)

Men on furlough not to leave U. S. without permission. An enlisted man on furlough will not leave the United States to go beyond the sea unless the furlough includes permission to do so. The limits prescribed will be stated in the furlough, and if exceeded it may be revoked and the soldier arrested. (109)

Men on furlough or absent without leave reporting without means to a station for transportation. When an enlisted man who is absent on furlough or absent without leave from his station and is without means to return thereto reports at a station that is under the control of a department commander, such department commander is authorized to furnish the necessary transportation and subsistence for the return of the soldier to his proper station after satisfying himself that the soldier can be intrusted therewith, or in the case of absence without leave, to return him under guard if necessary. The company commander will charge the cost of such transportation and subsistence against the soldier's pay on the next pay roll. (110)

Arms and payment while on furlough. Soldiers on furlough will not take with them their arms or accouterments, and no payments will be made to them without authority from the War Department. (113)

Property lost or destroyed by deserters. When a soldier deserts his company commander will at once ascertain whether any public property has been lost in consequence thereof, and if so, the value of same will be charged against the deserter on the next pay rolls. (116)

Clothing abandoned by deserters. Clothing abandoned by a deserter is turned over to the quartermaster. All other personal effects are sold and the proceeds deposited to the credit of the United States. In no case will the money or proceeds of the sale of the effects of a deserter be turned over to relatives. (117)

Reward for apprehension and delivery of deserters and escaped military prisoners. A reward of \$50 will be paid to any civil officer or civilian for the apprehension and delivery of a deserter, or a military prisoner. (121)

Expenses incurred by enlisted men sent in pursuit of deserters. When enlisted men are sent in pursuit of a deserter, the expenses necessarily connected therewith will be paid whether he be apprehended or not and same will be charged against the deserter. (122)

Forfeiture of pay and allowances while absent without leave and making good time lost. An enlisted man who absents himself from his post or company without authority will forfeit all pay and allowances *thereafter* accruing *until the date of his return to military control*, and will be required to make good the time lost by such absence. The period of *such* absence will not be regarded as service in the computation of continuous-service pay under the laws existing prior to the act of Congress approved May 11, 1908, or for retirement. No man will be reported a deserter until after the expiration of 10 days (should he remain away that length of time), unless the company commander has reason to believe that the absentee does not intend to return; but commanding officers will take steps to apprehend soldiers absent without leave as soon as the fact of that absence is reported. Should the soldier not return, or not be apprehended, within the time named, his desertion will date from the commencement of the unauthorized absence. An absence without leave of less than one day will not be noted upon the muster rolls. (132)

Retirement. When an enlisted man should have served as such for 30 years, either in the Army, Navy, or Marine Corps, or in all, he is eligible for retirement. Men so retired are entitled to transportation and subsistence to their home.

Length of war service with the Army in the field, or with the Navy or Marine Corps in (either as volunteer or regular) actual service in China, Cuba, the Philippines, the Island of Guam, Alaska, or Panama, or prior to April 23, 1904, in Porto Rico, will, for men enlisting prior to August 24, 1912, be doubled in computing the 30 years' service. (134)

Retired soldiers receive three-fourths pay at date of retirement and also \$6.25 per month as commutation for fuel and light and \$9.50 as commutation of clothing and rations. (Paymasters' Manual)

Discharge from service. An enlisted man will not be discharged before the expiration of his term of service except—

1. By order of the President or the Secretary of War.

2. By sentence of a general court-martial or military commission.

3. By direction of the commander of a territorial department or mobilized division, by purchase under rules governing such discharge: on account of disability not due to misconduct; on account of *a sentence to imprisonment by a civil court, whether suspended or not; or under the provisions of paragraphs 126 and 148½.*

4. In compliance with an order of one of the United States Courts, or a justice or a judge thereof, on a writ of habeas corpus. (139)

Final statements to be furnished upon discharge. When an enlisted man is discharged, his company commander will furnish him with a final statement, in duplicate, or a full statement in writing of the reasons why such final statement is not furnished. A final statement will not be furnished to a soldier who has forfeited all pay and allowances and has no deposits due him. If he has deposits, a final statement will be issued, containing a full statement of the soldier's accounts at the date of his discharge, in order that the quartermaster may determine whether there is any balance of stoppages which should be collected from the amount due for deposits. (140)

Discharge by purchase and by reason of dependent parent. After a soldier has been in the service one year, he may purchase his discharge. Soldiers may also be discharged by reason of dependent relatives. The rules governing such discharges are published in War Department orders. (144)

Certificate of discharge to be furnished upon discharge. Whenever an officer of the grade of colonel, lieutenant-colonel or major of any staff corps or department, is present with a command, discharges of enlisted men of that corps or department may be signed by such officer. (147)

Character of discharge. The character given on a discharge will be certified to by the company or detachment commander, and great care will be taken that no injustice is done the soldier. Where, upon expiration of term of service, the company or detachment commander is of the opinion that *the soldier's reenlistment should not be recommended*, he shall, if practicable, so notify the soldier at least 30 days prior to discharge, and shall at the same time notify the commanding officer, who will in every case convene a board of officers, three if practicable, to determine *whether the soldier's reenlistment should or should not be recommended* and the kind of discharge that should be given to him under the provisions of paragraph 150. The soldier will in every case be given a hearing before the board. (148)

Discharge because of physical disability. When an enlisted man is permanently unfitted for military service because of wounds or disease, he should, if practicable, be discharged on certificate of disability before the expiration of the term of service in which the disability was incurred. Certificates of disability for discharge will not be made in duplicate. (159)

A soldier discharged because of wounds, injury or disease incurred in line of duty is entitled to a pension of from \$6 to \$100 a month, depending upon the degree of disability. (Author)

Death of soldier; securing effects and notifying nearest relative and The Adjutant General of the Army. In case of the death of a soldier his company commander will secure his effects, make an inventory of same and notify his nearest relative. A report is also made to The Adjutant General of the Army, giving cause of death, whether or not it was from wounds or disease contracted in line of duty, and whether or not it was from wounds or disease the result of his own misconduct. (162; 162½)

Disposal of effects of deceased soldier. If the effects of a deceased soldier are not claimed within a reasonable time, they will be sold and the proceeds deposited to the credit of the United States. There is no authority for officers to pay the debts of deceased soldiers. Watches, trinkets, personal papers, and keepsakes will not be sold, but will be sent to The Adjutant General of the Army for the benefit of those legally entitled thereto. (163)

Effects of deceased soldier to be delivered to legal representatives; application for arrears of pay and proceeds of sale. The effects will be delivered, when called for, to the legal representatives of the deceased, and the receipts therefor forwarded to The Adjutant General of the Army. Application for arrears of pay and proceeds of sale of effects of deceased soldiers should be addressed to the Auditor for the War Department, Washington, D. C. (165)

Disposal of remains of deceased soldier. The remains of a deceased enlisted man on the active list may be shipped to the home of the decedent or to a national cemetery for interment. When death occurs in the United States or in Alaska, and early shipment is practicable, the remains will be prepared for shipment and the nearest relative notified by telegraph with request to reply by telegraph, stating whether or not it is desired to have the remains shipped home at Government expense, and if shipment home is desired to designate the destination and the name of the person to whom the remains are to be consigned; in which case the remains will be transported to the point designated and the consignee

notified by telegraph. Should the nearest relative state that it is not desired to have the remains shipped home, or if it is impossible to ascertain the relative's desire within a reasonable time, interment will be made in the nearest military post or national cemetery, or, if the commanding officer deem proper, at the place of death. If the relatives direct that the remains be not shipped home and they are interred at the expense of the Government, subsequent disinterment or shipment of the remains at the request of the relatives will not be made at Government expense. If the remains are interred in a military post or national cemetery, or at the place of death, the expenses incident to the interment will be limited to \$35. If the remains are to be shipped, the expenses, exclusive of the cost of transportation, will be limited to \$50 and restricted to the cost of the casket, shipping case, and the reasonable and necessary expenses of preparing the remains for shipment. When it is impracticable to ship the remains at the time of death, or if it is impossible to communicate with the relatives before interment, the remains may be subsequently disinterred and shipped home at Government expense at the request of the relatives. (167)

Admission to Soldiers' Home. An honest and faithful service of 20 years in the Army entitles a soldier to admission to the Soldiers' Home, Washington, D. C.

When a soldier, by reason of long service or disability contracted in the line of duty, desires to enter the Soldiers' Home his company commander will so report to The Adjutant General of the Army, giving all the details necessary for a full understanding of the case, including the date of each enlistment, with company and regiment, the report to be forwarded directly by the post commander. If the soldier be physically disabled, the report will be accompanied by certificates of disability. The papers will be referred to the board of commissioners of the home, and if, in its opinion, the soldier is entitled to become an inmate, the necessary authority will be given for his discharge at the place where he is serving. He may then proceed to Washington and report to the board of commissioners for admission to the home. (178 and 179)

Medal of Honor. Medals of honor authorized by Congress are awarded to officers and enlisted men in the name of the Congress for particular deeds of most distinguished gallantry in action.

In order that the medal of honor may be awarded, officers or enlisted men must perform in action deeds of most distinguished personal bravery or self-sacrifice above and beyond the call of duty so conspicuous as clearly to distinguish them for gallantry and intrepidity above their comrades, involving risk of life or the performance of more than ordi-

narily hazardous service, and the omission of which would not justly subject the person to censure as for shortcoming or failure in the performance of his duty. The recommendations for the medal will be judged by this standard of extraordinary merit, and incontestable proof of the performance of the service will be exacted. (182)

Certificate of merit. When any enlisted man of the army shall have distinguished himself in the service, the President may grant a certificate of merit to him, on the recommendation of the commanding officer of the regiment to which he belongs. (184)

Recommendations for a certificate of merit must be based upon the statement of an eye witness, preferably the immediate commander. The act or acts by which the enlisted man distinguished himself must be specifically described, and when the recommendation is made by a commissioned officer who was an eye witness, it must be so stated. When a commissioned officer was not an eye witness, the testimony, when practicable, of at least two eye witnesses who so describe themselves must accompany the recommendation. (185)

Additional pay at the rate of \$2 a month from the date of the distinguished service is allowed to each enlisted man to whom a certificate of merit is granted. (186)

Neither a medal of honor nor a certificate of merit will be awarded in any case when the service of the person recommended, subsequent to the time he distinguished himself, has not been honorable.

The proviso in this paragraph regarding honorable service applies to the award of campaign badges. (188)

Orderly observance of Sabbath. An orderly observance of the Sabbath by the officers and men in the military service is enjoined. (205)

Bunks, arms and accouterments. In quarters the name of each soldier will be attached to his bunk, arms will be kept in racks, and accouterments and sabers will be hung up by the belts. (285)

Cleanliness of men and police of barracks. Strict attention will be paid by company commanders to the cleanliness of the men and to the police of barracks or tents. The men will be required to bathe frequently. In garrison, and whenever practicable in the field, they will be required to wash their hands thoroughly after going to the latrines and before each meal, in order to prevent the transmission of typhoid fever and other diseases by germs taken into the mouth with food from unclean hands. The hair will be kept short and the beard neatly trimmed. Soiled clothing will be kept in the barrack bag. (286)

Preparation for Saturday inspection. A thorough police of barracks will precede the Saturday inspection. The chiefs of squads will

see that bunks and bedding are overlaided, floors, tables, and benches scoured, arms and accouterments cleaned, and all leather articles polished. (287)

Chiefs of squads responsible for cleanliness of their men. Chiefs of squads will be held responsible for the cleanliness of their men. They will see that those who are to go on duty put their arms, accouterments, and clothing in the best order, and that such as have passes leave the post in proper dress. (288)

Uniform. Soldiers will wear uniform in camp and garrison. When on fatigue they will wear suitable fatigue dress. (289)

Property in possession of enlisted men. Company commanders will see that all public property in the possession of enlisted men is kept in good order, and that missing or damaged articles are duly accounted for. (290)

Taking arms apart; polishing of certain parts; beautifying or changing finish; use of tompons, etc. Enlisted men will not take their arms apart except by permission of a commissioned officer under proper supervision, and only in the manner prescribed in the descriptive pamphlet of the arm issued by the Ordnance Department. The polishing of blued or browned parts of small arms, rebluing or rebrowning, putting any portion of an arm in a fire, or removing a receiver from a barrel, is prohibited. The mutilation of any part by filing or otherwise, and attempts to beautify or change the finish, are prohibited. Pieces will be unloaded before being taken to quarters or tents, and as soon as the men using them are relieved from duty, unless otherwise ordered. The use of tompons in small arms is forbidden. The prohibition in this paragraph of attempts to beautify or change the finish of arms in the hands of enlisted men is not construed as forbidding the application of raw linseed oil to the wood parts of the arms. This oil is considered necessary for the preservation of the wood, and it may be used for such polishing as can be given by rubbing in one or more coats when necessary. The use of raw linseed oil only will be allowed for redressing, and the application for such purpose of any kind of wax or varnish, including heelball, is strictly prohibited. (292)

Only authorized dressing or polishing material to be used. It is forbidden to use any dressing or polishing material on the leather accouterments or equipments of the soldier, the horse equipments for cavalry, or the artillery harness, except the preparations supplied by the Ordnance Department for that purpose. (293)

Police of quarters and premises. After breakfast, and after stable duty in the mounted service, the tents or quarters and adjacent

ground will be policed by the men of the companies and the guardhouse or guard tent by the prisoners, or by members of the guard if there be no prisoners. (374)

Honors and courtesies. Everything in the Army Regulations about honors and courtesies that affects enlisted men is covered in Chapter V, "Military Courtesy."

Loss of, or damage to, public property. If an article of public property be lost or damaged by the neglect or fault of any officer or soldier, he shall pay the value thereof, or the cost of repairs, at such rates as may be determined by a survey of the property. (685)

The amount charged against an enlisted man on the pay rolls on account of loss or damage of, or repairs to, Government property shall not exceed the value of the article or cost of repairs; and such charge will only be made on conclusive proof, and never without a survey, if the soldier demand it. He will be informed at the time of signing the pay rolls that his signature will be regarded as an acknowledgment of the justice of the charge. (686)

Neglect to take proper care of rooms or furniture. Neglect by any officer or soldier to take proper care of rooms or furniture used by him is a military offense. In case of damage, such officer or soldier may be allowed to pay cost of necessary repairs if the commanding officer deem such payment sufficient. (1011)

Articles of tableware and kitchen utensils. Any articles of tableware and kitchen utensils that may be damaged, broken, destroyed, or lost through the carelessness of enlisted men will be charged against their pay. (1178)

Ration. A ration is the allowance for the subsistence of one person for one day. (1202)

Forfeiture of commutation of rations for failure to return from furlough on time. A soldier on furlough who fails to report at his proper station on or before the last day of his furlough unless discharged will forfeit his commutation of rations. (1229)

Continuous service pay. Any enlisted man honorably discharged at the termination of an enlistment period who reenlists within three months thereafter shall be entitled to continuous-service pay in addition to the initial pay provided by the act of May 11, 1908, as follows: Where the initial pay is \$36 or more a month, an increase of \$4 monthly pay for and during the second enlistment, and a further monthly increase of \$4 for and during each subsequent enlistment up to and including the seventh enlistment. Where the initial pay is \$18, \$21, \$24 or \$30, an increase of \$3 monthly pay for and during the second enlist-

ment, and a further monthly increase of \$3 for and during each subsequent enlistment up to and including the seventh. Where the initial pay is \$15 and \$16, an increase of \$3 monthly pay for and during the second and third enlistments each, and a further monthly increase of \$1 for and during each subsequent enlistment up to and including the seventh. After the seventh enlistment the pay shall remain as in the seventh enlistment. (1339)

Certificate of merit. A certificate of merit granted to an enlisted man for distinguished service entitles him, from the date of such service, to additional pay at the rate of \$2 a month during military service, whether as an enlisted man or as an officer, although such service may not be continuous, and is payable in full to a retired enlisted man. (1341)

Foreign service pay. The 20 per cent allowed by law to enlisted men serving beyond the limits of the United States and Territories contiguous thereto, except the Canal Zone, Panama, or Hawaii or Porto Rico, is payable from date of departure from the United States until the date of return thereto; but enlisted men entitled to this increase are not entitled to receive extra-duty pay. (1342)

Marksmanship pay, organizations armed with rifle. Enlisted men qualifying as expert riflemen are entitled to \$5 a month, those qualifying as sharpshooters to \$3 a month, and those qualifying as marksmen to \$2 a month, in addition to their pay, from the date of qualification to the end of the enlistment in which they qualify, provided that during that time they do not attain a higher classification and that they continue to be members of an organization armed with the rifle, in which qualification is authorized. (1345)

Allotments. Every enlisted man absent on distant duty shall be allowed to allot such portion of his pay as he may desire for the support of his family or relatives, for his own savings, or for any other purpose, excepting that of obtaining an advance on his pay; but the allotment privileges to soldiers serving within the boundaries of the United States will be limited to the support of their families and relatives. (1347)

Capture by enemy of soldiers who have made allotments. In case of the capture by the enemy of soldiers who have made allotments which may expire after their capture, the monthly payments of the same shall be continued until otherwise ordered by the Secretary of War. (1355)

Renewal of discontinued allotments. When an allotment is discontinued, at the request of the person making it, before the expira-

tion of the term for which it is granted, it shall not be renewed within that term except by permission of the regimental or post commander, on satisfactory reasons being given for such discontinuance and renewal. (1360)

Deposits. An enlisted man, not on the retired list, may deposit his savings with any quartermaster in sums of not less than \$5; the same to remain so deposited until final payment on discharge or until furloughed to the reserve. The quartermaster will furnish to each depositor, a book in which each deposit, with the name of the depositor, date, place, and amount, in words and figures, will be entered in the form of a certificate, signed by the quartermaster and company commander. The transfer, pledge, or sale of a deposit book is prohibited. (1361)

Loss of deposit book. Before delivering final statements upon which deposits are credited, the officer signing them will ascertain whether the soldier has the deposit book; and, if so, instruct him to present it to the quartermaster. Should he claim to have lost it, the officer will cause his affidavit to that effect to be taken before he leaves the post and attached to the statement. The affidavit will clearly state the circumstances attending loss of the book and show that the soldier has not sold or assigned it. Upon this evidence the quartermaster may pay and the responsibility for the correctness of amounts credited on the statement will rest with the officer certifying them. (1363)

Deposits to be paid only on final statements; importance of preserving deposit books. Quartermasters will not pay deposits except on final statements. When they are not paid the soldier should forward his deposit book or the evidence referred to in the preceding paragraph to the Chief of the Quartermaster Corps. Enlisted men should be informed of the importance of preserving deposit books as the only certain means of insuring prompt repayment. (1364)

Deposits to be drawn upon discharge or furlough to reserve. A soldier must draw his deposit when he is discharged or furloughed to the reserve. He can then renew it after reenlistment, and will be entitled to interest thereon from the date of such renewal. Failure to present the final statements leaves the money without interest until it is drawn and again deposited. A discharged soldier who desires, after reenlistment, to have all or a part of the money due to him on discharge deposited under the provisions of paragraph 1361, must furnish to the quartermaster who makes payment on his final statement a written order requesting that such part of the amount due thereon, as he may desire so deposited, be transferred to his new account. The quartermaster will file this order

with the paid final statement as authority for this disposition of the money due to the soldier. (1365)

Interest on deposits. For any sum of not less than \$5 deposited for the period of six months or longer the soldier, when discharged or furloughed to the reserve, will be paid interest at the rate of 4 per cent per annum to date of discharge. (1366)

Forfeiture of deposits by desertion. Both deposits and interest will be forfeited by desertion, but forfeiture of them cannot be imposed by sentence of a court-martial. They are exempt from liability to meet a sentence of a court-martial imposing forfeiture of pay or allowances, and from liability for the soldier's private debts. Deposits and interest are not exempt from liability for debts due to the United States or to individuals. (1368)

Forfeiture of pay while in confinement by civil authorities. Officers and enlisted men in arrest and confinement by the civil authorities will receive no pay for the time of such absence; if released without trial, or after trial and acquittal, their right to pay for the time of such absence is restored. (1371)

Pay of deserters. An enlisted man charged with desertion will not receive pay until his offense has been investigated by a court-martial, or he has been restored to duty without trial, or the charge has been set aside as having been erroneously made. (1372)

Every deserter forfeits all pay and allowances due at the date of desertion. (1373)

Payment of soldiers discharged or furloughed to the reserve. Discharged soldiers and those furloughed to the reserve will be paid on final statements prepared in duplicate and furnished to them by their company or detachment commanders. Payment will be made only on presentation of both copies. (1375)

Transportation and subsistence allowance in case of discharge or furlough to the reserve. When an enlisted man is discharged from the service, except by way of punishment for an offense, or is furloughed to the reserve, he shall be entitled to transportation in kind and subsistence from the place of his discharge or furlough to the place of his enlistment, or to such other place within the continental limits of the United States as he may select, to which the distance is no greater than that from the place of discharge or furlough to place of enlistment; but if the distance be greater he may be furnished with transportation in kind and subsistence for a distance equal to that from place of discharge or furlough to place of enlistment, or in lieu of such transportation and subsistence, he shall, if he so elects, receive 2 cents

a mile, except for sea travel, from the place of his discharge to the place of his enlistment: *Provided*, That for sea travel on discharge or furlough transportation and subsistence only shall be furnished to enlisted men: *And provided further*, That for the purpose of determining allowances for all travel of enlisted men on discharge or furlough, travel in the Philippine Archipelago, the Hawaiian Archipelago, the home waters of the United States, and between the United States and Alaska shall not be regarded as sea travel and shall be paid for at the rates established by law for land travel within the boundaries of the United States.

Officers furnishing transportation in kind and subsistence to an enlisted man on discharge or furlough to the reserve will endorse such facts on his final statement, showing points between which furnished and cost of subsistence. (C. A. R., No. 36, Dec. 8, 1915.)

When a discharged soldier elects to receive 2 cents a mile in lieu of transportation in kind and subsistence for travel from place of discharge to place of enlistment, such travel allowance is *not* subject to deduction to make good indebtedness of the soldier to the United States or to such instrumentalities of the Government as shall have been legally established, such as *post exchanges* or company funds. (1378)

Soldier discharged for fraud in enlistment, not entitled to transportation and subsistence. An enlisted man discharged for minority concealed at enlistment, or for other cause involving fraud on his part in the enlistment, is not entitled to pay and allowances, including those for travel, and will not receive a final statement unless deposits are due him, in which case a final statement, containing a full statement of the soldier's accounts at date of discharge, will be furnished. (1380)

Gratuity in case of death. When any officer or enlisted man on the active list of the Army dies from wounds or disease not the result of his own misconduct, his widow, or some other person duly designated by him, is entitled to receive, through the Quartermaster Corps, an amount equal to six months' pay at the rate such officer or enlisted man was receiving pay at the date of his death, less \$75 in the case of each officer and \$35 in the case of each enlisted man. Any residue of the sums thus reserved, after the expenses of interment have been met therefrom, will be paid subsequently to the same beneficiary. Each officer and enlisted man in service on the active list will file on the form furnished for that purpose by The Adjutant General of the Army the full name and address of the person to whom he wishes the half year's salary paid in the event of death, and he may also file on the said form the full name and address of the person to whom he wishes the half year's salary paid in the event of the death of the first named beneficiary.

prior to the date of payment of the gratuity. The signature in every case will be witnessed and attested as required by the printed notes on the form. Should an officer or enlisted man desire to change a beneficiary previously designated by him and to make a new designation, he may do this by filling up and forwarding to The Adjutant General of the Army another blank of the prescribed form, properly signed, witnessed, and attested. (1385)

Only authorized persons allowed to accompany sick and wounded to the rear. No person, except the proper medical officers or the officers, noncommissioned officers, and privates of the ambulance service, or such persons as may be specially assigned by competent military authority to do duty therewith, will be permitted to take or accompany sick or injured men to the rear, either on the march or elsewhere. (1437)

Arms and accouterments not to be taken to hospital. Patients will, if possible, leave their arms and accouterments with their companies. (1450)

Artificial limbs. Every officer, enlisted man, or employee of the military forces of the United States who, in the line of duty, or through disease contracted in service, shall have lost a limb, or the use of a limb, will receive once every three years an artificial limb or appliance, or commutation therefor if he shall so elect, under such regulations as the Surgeon General of the Army shall prescribe. The money value allowed as commutation is, for a leg, \$75; for an arm, foot, and apparatus for resection, \$50. (1490)

Necessary transportation, including sleeping car accommodations, required for travel to place where artificial limbs may be fitted, will be furnished by the Quartermaster Corps, the cost to be refunded from any money appropriated for the purchase of artificial limbs. (1491)

Ammunition expended without orders. Ammunition expended by a soldier without orders, or not in the line of duty, or which may be damaged or lost through his neglect, will be charged to him. (1530)

68. UNIFORM REGULATIONS

(The Uniform Regulation paragraph numbers follow each paragraph in parentheses.)

Read and explain to the recruit the following extracts from the Uniform Regulations:

Alterations, fitting of uniforms, etc. Alterations will not be made in any article of the uniform that will result in a material

change from the cut prescribed for it in regulations; nor will hooks be placed on the front of the coat below the buttons. Company commanders will exercise personal supervision over the fitting of the uniforms of the men of their companies, and permit only such changes as will insure a proper fit without disturbing the general appearance of the uniform. (4)

Athletic clothes. Tennis, baseball, football, golf, and other athletic clothes may be worn when engaged in athletic games and sports. (5)

Civilian clothing. *Enlisted men on pass and furlough.* Enlisted men may wear civilian clothing on furlough, and within the continental limits of the United States they may be authorized by the commanding officer to wear civilian clothing when on pass.

The wearing of civilian clothing within the post by officers and enlisted men will be restricted to the time necessary in entering and leaving same.

Not to be accompanied by parts of uniform. When officers or enlisted men wear civilian dress, it will not be accompanied by any mark or part of the uniform, except that officers may wear service breeches and regulation leather leggings or russet-leather boots with civilian coat when riding outside of post limits and off duty. The use of the service hat and the regulation saddle-cloth by officers riding in civilian clothes is prohibited.

Optional wear of rosettes and buttons. Rosettes or buttons of approved pattern, to consist of ribbons of the same color as those that pertain to the several service medals and badges, are authorized for optional wear with civilian clothing on the part of those persons to whom such medals and badges have been awarded or may be awarded, in lieu of the medals or badges to which such rosettes or buttons pertain respectively. (10)

Civilians not to wear the uniform. In Alabama, Arizona, Arkansas, California, Connecticut, Florida, Georgia, Idaho, Illinois, Iowa, Maine, Maryland, Michigan, Mississippi, Missouri, Montana, New Hampshire, New Mexico, New York, North Dakota, Oklahoma, Oregon, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Washington, West Virginia, and Wisconsin it is a misdemeanor for any person not an officer or enlisted man of the United States Army, Navy, Marine Corps, National Guard, Revenue Service or Forestry Service, or inmate of a veterans' or soldiers' home to wear the uniform of the United States Army. The law does not apply to persons of the theatrical profession while actually engaged in their profession. (11)

Conformity of articles of the uniform and arms and equipments to standard patterns, and publication of descriptions and specifications of same. All articles of the uniform including garments of headgear, footgear, ornaments, insignia, buttons, decorations and other articles herein specified, will, with the exceptions stated in this paragraph, conform in the quality, design, and color to the sealed patterns in the office of the Quartermaster General, who will from time to time publish descriptions and specifications of such patterns. *Exceptions:* Officers' collars, cuffs, evening dress shirts, neckties, shirt studs, shoes, socks, and white gloves; also suspenders for officers and enlisted men. (12)

Decorations, jewelry, etc. No decoration received from a foreign government, and no civilian decoration or jewelry, watch chains, fobs, etc., shall appear exposed on the uniform. (13)

Dignity of the uniform. Officers, especially organization commanders, will impress upon enlisted men that the dignity of the uniform and the respect due it are best preserved when its wearers so conduct themselves as never to cast discredit upon it. Permission to wear civilian clothes should never be granted enlisted men merely as a reward for good conduct, as this would appear to discredit the uniform. Such permission should be given only when conditions indicate that it would be for the best interests of the service, and is not in violation of the provisions of these regulations. (15)

Discrimination against the uniform a misdemeanor in the District of Columbia, territories, insular possessions and certain states. In the District of Columbia, in any Territory, the District of Alaska, and any insular possession of the United States, and in the States of Connecticut, Florida, Massachusetts, Minnesota, New Hampshire, New York, Oklahoma, Pennsylvania, Rhode Island, and Wyoming, it is a misdemeanor for the proprietor, manager, or employee of a theater or other public place of entertainment or amusement to discriminate against any person lawfully wearing the uniform of the Army of the United States. (16)

Special courts-martial and courts of inquiry will hold their first session in the dress or service uniform, as the president may prescribe. Thereafter the court will decide the uniform. Side arms will be worn.

The judge advocate and counsel will wear the same uniform as the court, without side arms; so will the accused, when practicable.

Witnesses and orderlies will appear in the same uniform as the court, with side arms. (21)

General courts-martial will hold their first session in such uniform as may be prescribed by the president. Thereafter the court will decide the uniform, except that when the members of a general court martial are assembled from different stations the president of the court will, upon receipt of the order convening the court, at once notify every member of the uniform to be worn, and all sessions of the court will be held in the uniform so prescribed by the president. Side arms will be worn.

The judge advocate and counsel will wear the same uniform as the court, without side arms; so will the accused, when practicable.

Witnesses and orderlies will appear in the same uniform as the court, with side arms. (22)

Guard. The uniform of the guard will be prescribed by the commanding officer, and unless he orders a change, individual members of the guard will wear until retreat the identical garments in which they are mounted. After retreat, and until breakfast, they may wear other garments of the uniform prescribed. (23)

Orderlies will wear side arms. In garrison, musician orderlies will wear only the belt; with the dress or full-dress uniform they will wear white gloves. (30)

Over-sea traveling. Whenever enlisted men, including recruits, are ordered to over-sea stations, except in Alaska, commanding officers of military posts and stations, including recruit depots, will see that each soldier, upon departing for the point of embarkation, has one suit of fatigue uniform and two suits of cotton olive-drab in his telescope case or canvas bag for use aboard the transport. (31)

Retired enlisted men may wear the pattern of uniform prescribed at the date of their retirement, except that the insignia of corps, department, or arm of service will be omitted. (40)

Summary court. The summary court officer, the accused, and the witnesses will wear the uniform of the command, without side arms. (46)

Unauthorized articles of uniform. Enlisted men will not be permitted to wear any articles of uniform which are not furnished by the Quartermaster Corps, nor will they be permitted to wear articles of the uniform other than those furnished to the organization to which they belong. (48)

Unauthorized combinations. (a) Combinations of various articles of the uniform other than the combinations prescribed in these regulations are prohibited.

(b) Former post commissary sergeants and other enlisted men transferred to the Quartermaster Corps may continue to wear the uniform of their corps, department, or arms of the service in their possession at time of transfer until such uniforms, including service chevrons and trouser's stripes, are worn out, changing insignia and grade of chevrons only at time of transfer to conform to those prescribed for enlisted men in the Quartermaster Corps. (49)

Uniforms to be worn in camp and garrison. Enlisted men will at all times, whether on or off duty, wear the uniform except when wearing civilian clothing as authorized in the Uniform Regulations. (51)

United States Army transports in time of peace. Enlisted men will wear the service uniform and those on fatigue duty the fatigue uniform. (53)

Badges, medals, ribbons and marksmanship insignia described in the Uniform Regulations are a part of the uniform and will be worn as prescribed. (56 and 97)

Ribbons are worn with the dress and service uniforms. (97)

The various distinctive marks awarded for excellence in marksmanship, and the swordsman's badge may be worn with the full dress, the dress, and the service uniforms. However, they will not be worn in the field.

Badges and medals will be worn on the left breast of the coat in a horizontal line, about 4 inches below the middle point of the top of the shoulder, those with ribbons being suspended from a bar of metal passed through the upper ends and tops of the ribbons. The badges and medals that have ribbons will be worn in but one line, overlapping if necessary.

Distinctive marks awarded for excellence in marksmanship are worn in a similar manner, except that they are not suspended from bars of metal passing through ribbons.

When marksmanship badges are worn with ribbons, the badges will be worn under the ribbons, in a horizontal line parallel to and three-eighths inch from the bottom of the ribbons.

If necessary to have more than one line of badges and medals, the second line will be placed below the first line, the bars from which the badges and medals are suspended being parallel to the upper bar and three-eighths inch from the bottom of the lowest medal, the middle of the lower line of medals being in the same vertical line as the middle of the upper line. (58)

Insignia on olive drab shirt. The insignia of rank of noncommissioned officers will be worn on the sleeve of the shirt, when the latter is worn without coat. (86, 102)

Coats and overcoats. Coats and overcoats will be buttoned throughout when worn. (68, 92)

The pockets of the coats and also the pockets of olive drab shirts worn without coats, must always be buttoned. (Author)

Suspenders may be worn, but they must not be visible. (110)

Waist belts issued by the Quartermaster Corps will be worn when the olive drab shirt is worn without the coat or sweater. They may be worn at other times, if so desired. (113)

White collars. With the dress and the full dress uniform, and with the service uniform when worn on pass from garrison, enlisted men will wear a plain standing white collar; the collar to show one-fourth inch above the collar of the coat. (115)

Service hat. The service hat will be worn peaked with four indentations, and with the hat cord sewed on. (Table of Occasions, page 62)

Service uniform not to be worn after retreat. Except by members of the guard, the service uniform will not be worn out of barracks after retreat by enlisted men in garrison, unless especially authorized by the commanding officer. (Notes 1 and 3, page 62)

Trousers. Trousers, cotton or woolen service, may be issued to and worn without leggins by such enlisted men as are on duty in offices, in the buildings in which offices are situated, including enlisted men of the hospital corps while on duty in dispensaries. The trousers will be worn only during the time actually engaged in such office duty. (Note 9, page 63)

White uniform. Cooks and bakers are authorized to wear white when working in the kitchen and bakery, and members of the hospital corps may also wear white in the hospital. However, there is no authority for their wearing white outside of the buildings named. (Table of Occasions, page 64)

Fatigue uniform for noncommissioned officers. Noncommissioned officers in charge of working parties will not wear the fatigue uniform unless their duties be such as to make it necessary.

69. WAR DEPARTMENT ORDERS AND REVISED STATUTES

Read and explain to the recruit the following War Department Orders and Revised Statutes:

(a) WAR DEPARTMENT ORDERS

Persuading or assisting men to desert; concealing deserters.

Whoever attempts to persuade or assist a soldier to desert or to attempt to desert, or whoever conceals, protects or assists a soldier who has deserted, shall be imprisoned not more than three years and fined not more than two thousand dollars. (Sec. 42, G. O. 22/10)

Forfeiture of pay during absence from duty on account of disease due to misconduct and making good time lost. No enlisted man who shall be absent from duty on account of disease resulting from his own intemperate use of drugs or alcoholic liquors or other misconduct shall receive pay for the period of absence. No enlistment shall be regarded as complete until the soldier shall have made good any time in excess of one day lost by unauthorized absences, or on account of disease resulting from his own intemperate use of drugs or alcoholic liquors or other misconduct, or while in confinement awaiting trial or disposition of his case if the trial results in conviction, or while in confinement under sentence. (G. O. 45/14)

Except as to unauthorized absences in excess of one day, the above applies only to men who enlist on or after April 27, 1914, the date the law was passed; men who enlisted prior to April 27, 1914, do not make good time lost through absences due to the other causes mentioned. (Bulletin 39/14)

No enlisted man who shall be absent from duty on account of disease resulting from his own intemperate use of drugs, or alcoholic liquors, or other misconduct, shall receive pay for the period of such absence. Absence from duty because of venereal disease not contracted in line of duty is within the purview of this law; and any man who, on or since August 24, 1912, has been absent or who may hereafter be absent from duty for any such cause or causes, is not entitled to pay, as distinguished from allowances, for the period of such absence. (G. O. 31/12)

Men who expose themselves to venereal disease to take prophylactic treatment. Commanding officers will require that men who expose themselves to the danger of contracting venereal disease shall at once upon their return to camp or garrison report to the hospital or dispensary for the application of such cleansing and prophylaxis as may be prescribed by the Surgeon General. Any soldier who fails to

comply with such instructions shall be brought to trial by court-martial for neglect of duty. (Par. III, G. O. 71/13)

(b) REVISED STATUTES

Sale of clothing, arms, and accouterments prohibited. The clothes, arms, military outfits, and accouterments, furnished by the United States to any soldier shall not be sold, bartered, exchanged, pledged, loaned or given away; and no person, not a soldier, or duly authorized officer of the United States, who has possession of any such clothes, arms, military outfits, or accouterments, so furnished and which have been the subjects of any such sale, barter, exchange, pledge, loan or gift, shall have any right, title or interest therein; but the same may be seized and taken wherever found by any officer of the United States, civil or military, and shall thereupon be delivered to any quartermaster, or other officer authorized to receive the same. The possession of any such clothes, arms, military outfits or accouterments by any person not a soldier or officer of the United States shall be presumptive evidence of such a sale, barter, exchange, pledge, loan, or gift. (Sec. 3748, Revised Statutes)

Purchase of clothing, arms, and accouterments prohibited. Every person who knowingly purchases or receives in pledge for any obligation or indebtedness from any soldier, officer, sailor, or other person called into or employed in the military or naval service, any arms, equipment, ammunition, clothes, military stores, or other public property, such soldier, sailor, officer, or other person not having the lawful right to pledge or to sell same, every person so offending in any of the matters set forth in this section shall be imprisoned at hard labor for not less than one nor more than five years, or fined not more than one thousand nor less than five hundred dollars. (Sec. 5438, Revised Statutes)

MISCELLANEOUS

70. Obedience. *What is obedience?* It is compliance with everything that is required by authority—it is the mainspring, the very soul and essence of all military duty. It is said a famous general once remarked every soldier should know three things—"First, *obedience*; second, *obedience*; third, *obedience*."

Cheerful, earnest, and loyal obedience must be paid by all subordinates to the orders of their superiors.

A soldier should obey first and if aggrieved complain afterward.

All duty should be performed cheerfully and willingly. Soldiers are sometimes required to perform duties that are not pleasant—

for instance, doing guard duty on a cold, rainy night, when tired and sleepy; digging ditches or cleaning up dirt and filth that have accumulated around the barracks, kitchens, quarters, etc., scrubbing floors, polishing stoves, cleaning knives, forks, pots, etc. However, by doing everything required of him in a cheerful manner, a soldier will soon earn the respect of his comrades and the commendation of his officers.

70-a. Discipline. By discipline we mean the *habit* of observing all rules and regulations and of obeying promptly all orders. By observing day after day all rules and regulations and obeying promptly all orders, it becomes second nature—a fixed habit to do these things.

Of course, in the Army, like in any other walk of life, there must be law and order, which is impossible unless everyone obeys the rules and regulations gotten up by those in authority.

When a man has cultivated the habit of obeying—when obedience has become second nature with him—he obeys the orders of his leaders instinctively, even when under the stress of great excitement, such as when in battle, his own reasoning is confused and his mind is not working.

In order to win a battle the *will* of the commander as expressed through his subordinates down the line from the second in command to the squad leaders, must be carried out by everyone. Hence the vital importance of prompt, instinctive obedience on the part of everybody, and of discipline, which is the mainspring of obedience and also the foundation rock of law and order.

71. Respect and obedience to noncommissioned officers. In the orders and directions that they give, company noncommissioned officers represent the company commander, and they must be obeyed and respected at all times and under all circumstances.

Orders and regulations require that men respect and obey their noncommissioned officers, and discipline makes it imperative that they do so.

It is not for a private to question in any way the fairness, justice, propriety or wisdom of an order received from a noncommissioned officer. When ordered by a noncommissioned officer to do a thing, whatever it may be, do it promptly and thoroughly, and then if you feel that you have been injured in any way, report the matter to your company commander, who will see that you receive justice. If the noncommissioned officer made a mistake, exceeding his authority, or treated you unfairly, he will be punished by the company commander. The company commander, and not the privates of the company, is to judge the con-

duct of his noncommissioned officers, who are directly responsible to him for every act of theirs.

If every subordinate were to question the fairness, justice, propriety or wisdom of orders received from noncommissioned officers or other superiors, there would be no discipline, and the Army would soon degenerate into a mob.

Remember, a soldier is supposed to obey *first*, and, if aggrieved, complain *afterward*.

And, remember, too, that the authority of noncommissioned officers is not confined to the drill ground, the barracks, and the post or camp. Whether you are on pass, in a theatre, in a streetcar, on a train, on the street, or anywhere else, if you receive an order from a noncommissioned officer you are to obey it just the same as if it were given you at drill or in barracks.

72. Military Courtesy. General Orders No. 183, Division of the Philippines, 1901, says: "In all armies the manner in which military courtesies are observed and rendered by officers and soldiers, is the index to the manner in which other duties are performed."

The Army Regulations tells us, "Courtesy among military men is indispensable to discipline; respect to superiors will not be confined to obedience on duty, but will be extended on all occasions."

WHOM TO SALUTE

All Army officers. All Army officers are saluted by enlisted men.

Navy, Marine Corps, Volunteer, and National Guard officers. Soldiers at all times and in all situations salute officers of the Navy, Marine Corps, and National Guard the same as they salute officers of the Regular Army.

Reserve Corps officers. Although the subject is not at present (March, 1917) covered by orders or regulations, it goes without saying that soldiers would salute members of the Officers' Reserve Corps *on active duty* the same as they salute their own officers.

Foreign naval and military officers. The Manual of Interior Guard Duty requires sentinels to salute foreign naval and military officers, but there are no instructions about other enlisted men saluting them. However, as an act of international courtesy, they should be saluted the same as our own officers.

WHEN AND HOW TO SALUTE

General rule. Day or night, covered or uncovered with headgear, whether either or both are in uniform or civilian clothes.

enlisted men not in a military formation, nor at drill, work, games, or mess, salute officers whom they meet, pass near or address, or who address them.

Saluting distance. Saluting distance is that within which recognition is easy. In general, it does not exceed 30 paces.

As to the distance at which the salute should be made, the following is what has been the practice in the Army:

In approaching or passing each other within saluting distance, individuals or bodies of troops exchange salutes when at a distance of about 6 paces. If they do not approach each other that closely, the salute is exchanged at the point of nearest approach. For instance, if the officer and soldier are approaching each other on the same sidewalk, the hand is brought up to the headdress when about 6 paces from the officer. If they are on opposite sides of the street, the hand is brought up when about ten paces in advance of the officer. If the officer and soldier are not going in opposite directions and the officer does not approach within six paces, the salute is rendered when the officer reaches the nearest point to the soldier. If a soldier passes an officer from the rear, the hand is raised as he reaches the officer; if an officer passes a soldier from the rear, the soldier salutes just as the officer is about to pass him.

Officer entering room occupied by soldiers. When an officer enters a room where there are several enlisted men the word "attention" is given by some one who perceives him, when all rise, uncover, and remain standing at attention until the officer leaves the room or directs otherwise.

At meals. Enlisted men at meals stop eating and remain seated at attention when an officer enters the room.

When seated. An enlisted man, if seated, rises on the approach of an officer, faces toward him, stands at attention, and salutes. Standing he faces an officer for the same purpose. If the parties remain in the same place or on the same ground, such compliments need not be repeated.

Soldier indoors. Indoors, an unarmed enlisted man uncovers and stands at attention upon the approach of an officer. If armed with rifle, he renders the rifle salute at the order or trail. (Note: According to custom, the term "indoors" is interpreted as meaning military offices, barracks, quarters, and similar places—it does not mean such public places as stores, storerooms, riding halls, stables, post exchange buildings, hotels, places of amusement, and railway and steamboat stations. In such places an unarmed soldier renders the right hand salute.)

Officer approaching number of soldiers in open. When an officer approaches a number of enlisted men out-of-doors, the word attention should be given by someone who perceives him, when all stand at attention and all salute. It is customary for all to salute at or about the same instant, taking the time from the soldier nearest the officer, and who salutes when the officer is six paces from him.

At work. Soldiers actually at work do not cease work to salute an officer unless addressed by him.

Riding in wagon. A soldier riding in a wagon should salute officers that he passes. He would salute without rising. Likewise, a soldier driving a wagon should salute, unless both hands are occupied.

Passing officer on staircase. It is customary for a soldier who is passed by an officer on a staircase to come to a halt and stand at attention.

Addressing or being addressed by an officer. Before addressing an officer, or when addressed by an officer, an enlisted man makes the prescribed salute with the weapon with which he is armed; or, if unarmed, with the right hand. He also makes the same salute after receiving a reply.

How salutes are rendered in uniform. In uniform, covered or uncovered, but not in formation, officers and enlisted men salute military persons as follows: With arms in hand, the salute prescribed for that arm (sentinels on interior guard duty excepted); without arms, the right hand salute.

Rifle salute. Enlisted men out of doors and armed with the rifle, salute with the piece at the right shoulder; if indoors, the rifle salute is rendered at the order or trail.

Saber salute. An enlisted man armed with the saber renders the saber salute, if the saber is drawn; otherwise he salutes with the hand.

Sentinels on post. A soldier salutes with the "present arms" only when actually on post as a sentinel doing interior guard duty. At all other times when armed with the rifle he salutes with the prescribed rifle salute.

The general rules and principles of saluting apply to sentinels on post doing interior guard duty, except, as just stated, they salute by presenting arms when armed with the rifle. However, they do not salute if it interferes with the proper performance of their duties.

How salutes are rendered in civilian dress. In civilian dress, covered or uncovered, officers and enlisted men salute military persons with the right-hand salute.

Rendering salutes in military manner. All the prescribed salutes will be rendered in a military manner, the enlisted man saluting first.

Mounted soldier dismounting before addressing dismounted officer. Except in the field under campaign or simulated campaign conditions, a mounted soldier dismounts before addressing an officer not mounted.

Man addressed in formation. A man in formation shall not salute when directly addressed, but shall come to attention if at rest or at ease.

In public places and conveyances. In public conveyances, such as railway trains and streetcars, and in public places, such as theaters, honors and personal salutes may be omitted when palpably inappropriate or apt to disturb or annoy civilians present.

For instance, as a rule, it may be said that an enlisted man riding in a streetcar, or in the act of purchasing goods in a store, or eating in a restaurant, would not salute unless addressed by an officer. However, in case of a soldier occupying a seat in a crowded street or railway car, if he recognized a person standing to be an officer, it would be but an act of courtesy for him to rise, salute, and offer the officer his seat.

No compliments paid at drill, on march, etc. Salutes and honors, as a rule, are not paid by troops actually engaged in drill, on the march, or in the field under campaign or simulated campaign conditions. Troops on the service of security pay no compliments whatever.

No saluting at double time, trot, or gallop. Salutes are not rendered when marching in double time or at the trot or gallop. The soldier must first come to quick time or walk before saluting.

The question of gait applies to the person saluting and not to the one saluted—so, a soldier would salute an officer passing in double time or at a trot or gallop.

Enlisted man in command of detachment. A noncommissioned officer or private in command of a detachment without arms salutes all officers with the hand, but if the detachment be on foot and armed with the rifle, he makes the rifle salute, and if armed with a saber he salutes with it.

MISCELLANEOUS

Soldier walking with officer. A soldier accompanying an officer walks on the officer's left and about one pace to his rear.

Prisoners do not salute. Prisoners do not salute officers. They merely stand at attention. In some commands it is customary for paroled prisoners and others who are not under the immediate charge of sentinels, to fold their arms when passing or addressing officers.

Unmilitary salutes. It is very unmilitary to salute with the coat unbuttoned or with the hand in the pocket, or a cigarette, cigar, or pipe in the mouth.

Headdress not raised in saluting. The headdress must not be raised to ladies, but they must be given the military salute. (War Dept. decision, August, 1913.)

Caution. In saluting, the hand or weapon is held in the position of salute until the salute has been acknowledged or until the officer has passed or has been passed.

RESPECT TO BE PAID THE NATIONAL ANTHEM, THE FLAG AND COLORS AND STANDARDS

73. The National Anthem. Whenever *The Star Spangled Banner* is played at any place where persons belonging to the military service are present, all officers and enlisted men not in formation shall stand at attention facing toward the music (except at retreat, when they shall face toward the flag). If in uniform, covered or uncovered, or in civilian clothes, uncovered, they shall salute at the first note of the anthem. If not in uniform and covered, they shall uncover at the first note of the anthem, holding the headdress opposite the left shoulder and so remain until its close, except that in inclement weather the headdress may be slightly raised.

The same marks of respect prescribed for observance during the playing of the National Anthem of the United States shall be shown toward the national anthem of any other country when played upon official occasions.

74. The Flag. The flag is lowered at the sounding of the last note of the retreat, and while it is being lowered the band plays *The Star Spangled Banner*, or, if there is no band present, the field music sounds **to the color**.

When **to the color** or **to the standard** is sounded by the field music the same respect will be observed as when *The Star Spangled Banner* is played by the band. Flags on flag staffs and other permanent poles are not saluted.

75. Colors and Standards. By *Colors* and *Standards* is meant the national flags and the regimental flags that are carried by regiments and separate battalions. They may be of either silk or bunting. In the Army

Regulations the word *color* is used in referring to regiments of infantry, battalions of Philippine scouts, and the coast artillery, while *standard* is used in reference to regiments of cavalry and field artillery.

By *Flag* is meant the national emblem that waves from flag staffs and other stationary poles. They are always of bunting.

Officers and enlisted men passing the *uncased* color or standard will salute as follows: If in uniform, covered or uncovered, they will, with arms in hand, render the salute prescribed for that arm, and, without arms in hand, they will render the right-hand salute. If in civilian dress and covered, they will uncover, holding the headress opposite the left shoulder with the right hand, and if covered, they will salute with the right-hand salute.

(Note: Colors and standards that are cased—that is to say, that are in their waterproof case—are not saluted.)

76. Military deportment and appearance. The enlisted man is no longer a civilian but a soldier. He is, however, still a citizen of the United States and by becoming a soldier also he is in no way relieved of the responsibilities of a citizen; he has merely assumed in addition thereto the responsibilities of a soldier. For instance, if he should visit an adjoining town and become drunk and disorderly while in uniform, not only could he be arrested and tried by the civil authorities, but he could also be tried by the summary court at his post for conduct to the prejudice of good order and military discipline. Indeed, his uniform is in no way whatsoever a license for him to do anything contrary to law and be protected by the government.

Being a soldier, he must conduct himself as such at all times, that he may be looked upon not only by his superior officers as a soldier, but also by the public as a man in every way worthy of the uniform of the American soldier.

Whether on or off duty, he should always look neat and clean, ever remembering that in bearing and in conversation he should be every inch a soldier—shoes must be clean and polished at all times; no chewing, spitting, gazing about, or raising of hands in ranks—he should know his drill, his orders and his duties—he should always be ready and willing to learn all he can about his profession—he should never debase himself with drink.

A soldier's uniform is more than a mere suit of clothes that is worn to hide nakedness and protect the body. The uniform of an army symbolizes its respectability, its honor, its traditions, and its achievements, just as the flag of a nation symbolizes its honor, dignity, and his-

tory. Always remember this, and remember, too, that the soldier who brings reproach upon his uniform is in the same class as the priest who brings dishonor upon his robes.

It is not given to every man to wear the uniform of his Country's army—it is an honor and a privilege to do so, and no individual has a right to abuse this honor and privilege by bringing the uniform into disrepute through misbehavior.

It should be remembered that the soldiers of a command can make the uniform carry distinction and respect, or they can make it a thing to be derided.

The soldier should take pride in his uniform.

A soldier should be soldierly in dress, soldierly in carriage, soldierly in courtesies.

A civilian owes it to himself to be neat in dress. A soldier owes it to more than himself—he owes it to his comrades, to his company—he owes it to his country, for just so far as a soldier is slack so far does his company suffer; his shabbiness reflects first upon himself, then upon his company, and finally upon the entire Army.

It is a fact known to students of human nature that just in proportion as a man is neatly and trimly dressed is he apt to conduct himself with like decency. The worst vagabonds in our communities are the tramps, with their dirty bodies and dirty clothes; the most brutal deeds in all history were those of the ragged, motley mobs of Paris in the days of the French Revolution; the first act of the mutineer has ever been to debase and deride his uniform.

The man who misbehaves himself in uniform in public creates a bad impression of the whole command, as a result of which his comrades must suffer. Remember that a man in the uniform of a soldier is conspicuous—much more so than a civilian—and consequently any misconduct on his part is more noticeable than if done in civilian clothes. The man who deliberately besmirches the uniform of his Country's army by appearing in public drunk or by other misconduct, not only fouls his own nest, but he also dishonors the uniform worn by his self-respecting comrades.

It is a well-known fact that laxity in dress and negligence in military courtesy run hand in hand with laxity and negligence in almost everything else, and that is why we can always look for certain infallible symptoms in the individual dress, carriage and courtesies of soldiers.

Should a soldier give care and attention to his dress?

Yes; not only should a soldier be always neatly dressed, but he should also be properly dressed—that is, he should be dressed as

required by regulations. A soldier should always be neat and trim, precise in dress and carriage and punctilious in salute. Under no circumstances should the blouse or overcoat be worn unbuttoned, or the cap back or on the side of the head. His hair should be kept properly trimmed, his face clean shaven or beard trimmed, and his shoes polished, his trousers pressed, the garrison belt accurately fitted to the waist so that it does not sag, his leggins cleaned, his brass letters, numbers, and crossed rifles polished, and his white gloves immaculate.

Should a man ever be allowed to leave the post on pass if not properly dressed?

No; never. The Army Regulations require that chiefs of squads shall see that such members of their squads as have passes leave the post in proper dress.

Should a soldier ever stand or walk with his hands in his pockets?

No; never. There is nothing more unmilitary than to see a soldier standing or walking with his hands in his pockets.

The real soldier always stands erect. He never slouches.

Is it permissible, while in uniform, to wear picture buttons, chains, watch charms, etc., exposed to view?

No; it is not.

May the campaign hat or any other parts of the uniform be worn with civilian dress?

No; this is prohibited by the Uniform Regulations, which especially state that when the civilian dress is worn it will not be accompanied by any mark or part of the uniform.

May a mixed uniform be worn—for example, a cotton olive drab coat and woolen olive drab breeches?

No; under no circumstances.

When the company commander or any other officer sends for a soldier to report to him in the company office or any other place, the soldier must report in proper uniform.

77. Forms of speech. In speaking to an officer it is not proper for a soldier to say, "You, etc.," but the third person should always be used, as, for example, "*Does the captain want his horse this morning?*"—do not say, "Do you want your horse this morning?" "The lieutenant is wanted on the phone,"—not "You are wanted on the phone."

In beginning a conversation with an officer, a soldier should use the third person in referring to himself instead of the pronouns "I" and "me." However, after the conversation has commenced, it is perfectly proper, and usual, for the soldier to use the pronouns "I" and "me," but an officer is *always* addressed in the third person and never as "you."

In speaking to an officer, an enlisted man should refer to another enlisted man by proper title, as, "*Sergeant Richards*," "*Corporal Smith*," "*Private Wilson*."

Privates and others should always address noncommissioned officers by their titles. For example, "*Sergeant Smith*," "*Corporal Jones*," etc., and not "*Smith*," "*Jones*," etc.

When asked his name, a soldier should answer, for instance, "*Private Jones, sir*."

When given an order or instructions of any kind by an officer, or noncommissioned officer, a soldier should always say, "*Yes, sir*," thus letting the officer or noncommissioned officer know that the soldier understands the order or instructions. Don't say, "Very well, sir," or "All right, sir"; say, "*Yes, sir*"—it's the direct, military way of answering.

Short, direct answers should be made in the form of, "*No, sir*," "*Yes, sir*," "*I don't know, sir*," "*I will try, sir*," etc.

Do not use slang in speaking to an officer.

Never interrupt an officer while he is speaking. Always wait until he is through talking before you begin to speak.

After a soldier has finished a thing that he was ordered to do, he should always report to the officer who gave him the order. For example, "The captain's message to Lieutenant Smith has been delivered."

If ordered to report to an officer for any purpose, do not go away without first ascertaining if the officer is through with you, as it often happens he has something else he would like to have you do. After having finished the work given in the beginning, report, for instance, "*Sir, is the captain through with me?*"

When an officer calls a soldier who is some distance away, the soldier should immediately salute, and say, "*Yes, sir*," and, if necessary, approach the officer with a quickened step. If the officer is waiting on the soldier, the latter should take up the double time.

Always salute an officer when he leaves you after a conversation or at any other time. And always salute just as soon as the officer makes the first move to leave. Don't wait until he has moved away several feet before saluting.

78. How to enter an office. In entering an office a soldier should give two or three knocks at the door (whether it be open or closed); when told to come in, enter, taking off the hat (if unarmed), close the door (if it was closed before you entered) and remain just inside the door until asked what is wanted; then go within a short distance of the officer, stand at attention, salute, if covered and armed.

and make known your request in as few words as possible. On completion, salute, if covered and armed, face toward the door, and go out, being careful to close the door if it was closed when you entered. If it was not closed, leave it open.

79. Delivery of messages. When an enlisted man receives a message, verbal or written, from an officer for delivery, he will in case he does not understand his instructions, ask the officer to repeat them, saying, for instance, "Sir, Private Smith does not understand; will the captain please repeat?" When he has received his instructions, and understands them, he will salute, and say: "Yes sir," execute an about face, and proceed immediately to the officer for whom the message is intended. He will halt three or four paces directly in front of the officer and *if the officer be junior to the officer sending the message* he will say, "Sir, Captain Smith presents his compliments," etc., and then deliver the message, or "The commanding officer presents his compliments to Lieutenant Smith and would like to see him at headquarters." He will salute immediately before he begins to address the officer and will hold his hand at the position of salute while he says, "Sir, Captain Smith presents his compliments," or "The commanding officer presents his compliments to Lieutenant Smith." If the officer sending the message be junior to the one receiving it, the soldier will not present his compliments, but will say, for instance, "Sir, Lieutenant Smith directed me to hand this letter to the captain," or "Sir, Lieutenant Smith directed me to say to the captain," etc. As soon as the message has been delivered, the soldier will salute, execute an about face, and proceed at once to the officer who sent the message, and will similarly report to him, "Sir, the lieutenant's message to Captain Smith has been delivered," and leave.

Before leaving an officer to whom you deliver a message always ascertain whether there is an answer.

The compliments of a junior are never presented to a senior. For instance, never say to a captain that a lieutenant presents his compliments to him.

80. Appearance as witness. The uniform is that prescribed, with side arms and gloves. Proceed to the courtroom and remain outside. When you are notified that you are wanted enter the room. Then take off your cap and right hand glove, and raise your right hand above your head, palm to the front, to be sworn. After the judge advocate reads the oath, say, "I do" or "So help me God." Then sit down in the chair indicated by the judge-advocate. Do not cross your legs, but sit upright. When asked, "Do you know the accused? If so, state who he is," answer, for example, "I do; Corporal John

Jones, Co. 'B,' 1st Infantry." Be sure you thoroughly understand every question before you start to reply, answering them all promptly, in a loud, distinct, deliberate voice, and confining your answers strictly to the questions asked and telling all you know.

When the judge-advocate says, "That is all," arise, cover, salute him, execute an about face, and leave the room.

SECOND TEN DAYS

81. Individual instruction with arms. Bayonet exercises, manual of arms, loadings, firings and marchings.

82. Use, description, and management of the rifle. Explain the names of the various parts of the rifle and their functions; also, how to dismount and how to assemble the different parts. See par. 121, Chapter XI, "Use, Description and Management of the Rifle."

83. Care of clothing, arms and other equipment. A soldier's clothing and equipment are issued to him by his government for certain purposes, and he has, therefore, no right to be in any way careless or neglectful of them.

The importance that the Government attaches to the proper care and preservation of the soldier's clothing and equipment, is shown by the fact that the matter is made the subject of one of the Articles of War, the 84th, which prescribes that any soldier who, through neglect, loses or spoils his arms, clothing, or accouterments shall suffer such punishment as a court-martial may direct.

CLOTHING

Every article of clothing in your hands should receive as much care and attention as you give your person.

Not only will your clothes last longer if properly cared for, but you will look neater and better dressed, which will add much to your military appearance.

Every soldier should have an A-1 whisk broom and no article of clothing should ever be worn without first being thoroughly brushed.

Pressing. Occasional pressing helps to preserve and freshen clothes—it puts new life into the cloth.

Blue clothing and woolen olive drab when worn regularly should be pressed about once a week.

In a company where there is an iron for general use there is no reason why every soldier should not press his own clothes.

Chevrons and stripes can be cleaned by moistening a clean woolen rag with gasoline and rubbing the parts and then pressing with a hot iron.

Leggins. When soiled, leggins must be washed. If the leggins are allowed to dry without being rung out, they will look better.

Service hat and the caps require nothing but brushing.

Shirts, underwear, socks, etc., should be carefully folded and put away neatly.

A special suit of clothing for inspections, parades, etc. Set aside your best suit of clothes for inspections, parades, and other ceremonies. The uniform worn at these formations should not be worn around in the barracks—every man has sufficient "second best" garments for barrack use.

Putting away. Uniforms should be dried thoroughly, brushed and properly folded before being put away. The number of folds should be reduced to a minimum.

Before uniforms are put away they should be carefully examined and any missing buttons, tears, or stains should be attended to at once.

Lockers and other places in which clothing is kept must be free from dust. They should be wiped off occasionally with a cloth wrung out of soap suds.

Stains. Tailors usually remove stains with a "rubber" made by rolling tightly a piece of woollen cloth of some kind, about two inches wide, until the roll is about an inch in diameter.

Rings in removing stains may be avoided by rubbing until very nearly dry.

Grease spots. Ordinarily benzine is a good stain remover in case of grease spots, but its use is more or less dangerous. It should be used in an open room or out of doors and never near a fire or lights.

"Carbona," which can be purchased in almost any drug store, is excellent for removing stains and it is perfectly safe.

Carbon tetrachloride (Merck's) is much cheaper than "Carbona" and about equally as good. It retails at 45c a pint at nearly all drug stores.

Grease spots can also be removed by placing a piece of brown paper, newspaper, blotting paper, or other absorbent paper over the stain, and pressing with a hot iron.

Rust or ink stains can be removed with a solution of oxalic acid. Apply rapidly and rinse at once with plenty of fresh water; this is most important—otherwise it will probably discolor the material.

Sweat stains can not be removed. However, the color can be partially restored and the material cleaned with a solution of ammonia and water—1/3 liquid ammonia, 2/3 water.

The shine that is sometimes left from pressing is caused by leaving the iron on too long or using an iron that is too hot.

This shine, if the cloth is not scorched, can be removed by "sponging," i. e., by placing a piece of damp muslin cloth on the material and then applying the iron only long enough to steam the surface of the garment.

Grease and oil stains on white trouser stripes can be removed with benzine, naphtha, or gasoline, applied with a stiff nail brush. Stains of rust and ink can be removed by means of oxalic acid (2 ounces of oxalic acid to 1 pint of water—dissolves quickest in warm water) applied with cloth or brush, then rinsed thoroughly with plain water and sponge. After the stripes have dried, apply English pipe-clay, rubbing with the cake itself; then rub in uniformly with woolen cloth rubber—rub vigorously—then brush off surplus pipe-clay.

Paint spots. Turpentine will take out paint spots.

Gilt ornaments and gilt buttons should be polished as often as necessary in order to keep them fresh and bright. Use a button stick in cleaning buttons, so as not to soil the cloth.

84.

SHOES

(Instructions issued by the Quartermaster General's Office, June 16, 1899.)

General care. Shoes should at all times be kept polished. By being so kept they are made more pliable and wear longer.

Shoes must withstand harder service than any other article worn, and more shoes are ruined through neglect than by wear in actual service.

Proper care should be taken in selecting shoes to secure a proper fit, and by giving shoes occasional attention much discomfort and complaint will be avoided.

Selection. A shoe should always have ample length, as the foot will always work forward fully a half a size in the shoe when walking, and sufficient allowance for this should be made. More feet are crippled and distorted by shoes that are too short than for any other reason. A shoe should fit snugly yet be comfortable over ball and instep, and when first worn should not lace close together over the instep. Leather always stretches and loosens at instep and can be taken up by lacing. The foot should always be held firmly, but not too tightly in proper position. If shoes are too loose, they allow the foot to slip around, causing the foot to chafe; corns, bunions, and enlarged joints are the result.

Repairs. At the first sign of break, shoes should be repaired, if possible. Always keep the heels in good condition. If the heel is allowed

to run down at the side, it is bad for the shoe and worse for the foot; it also weakens the ankle and subjects the shoe to an uneven strain, which makes it more liable to give out. Shoes, if kept in repair, will give double the service and comfort.

Shoe dressing. The leather must not be permitted to become hard and stiff. If it is impossible to procure a good shoe dressing,¹ neat's-foot oil or tallow are the best substitutes; either will soften the leather and preserve its pliability. Leather requires oil to preserve its pliability, and if not supplied will become brittle, crack, and break easily under strain. Inferior dressings are always harmful, and no dressing should be used which contains acid or varnish. Acid burns the leather as it would the skin, and polish containing varnish forms a false skin which soon peels off, spoiling the appearance of the shoe and causing the leather to crack. Paste polish containing turpentine should also be avoided.

Perspiration. Shoes becoming damp from perspiration should be dried naturally by evaporation. It is dangerous to dry leather by artificial heat. Perspiration contains acid which is harmful to leather, and shoes should be dried out as frequently as possible.

Wet shoes. Wet or damp shoes should be dried with great care. When leather is subjected to heat, a chemical change takes place, although no change in appearance may be noted at the time. Leather when burnt becomes dry and parched and will soon crack through like pasteboard when strained. This applies to leather both in soles and uppers. When dried the leather should always be treated with dressing to restore its pliability. Many shoes are burned while on the feet without the knowledge of the wearer by being placed while wet on the rail of a stove or near a steam pipe. Care should be taken while shoes are being worn never to place the foot where there is danger of their being burned.

(Note. To dry wet shoes, the last thing at night take a few handfuls of dry clean pebbles, heat them in meat can, kettle, or campfire until very hot; place them in the shoes—they will dry them out thoroughly in a few hours—shake once in a while. Oats or corn may also be used, but they are not available always and pebbles usually are. Now is an excellent time to grease or oil the shoes.—Author.)

Keep shoes clean. An occasional application of soap and water will remove the accumulation of old dressings and allow fresh dressing to accomplish its purpose.

Directions for polishing. Russet leather should be treated with great care. Neither acid, lemon juice, nor banana peel should be used for cleaning purposes. Only the best liquid dressing should be used and shoes should not be rubbed while wet.

¹ "Viscol" is the best oil for softening all kinds of leather that the author knows of. It is made by The Viscol Co., East Cambridge, Mass., and can be obtained from the post exchange.

Liquid dressing. Care should be taken in using liquid dressing. Apply only a light coat and *allow this to dry into the leather before rubbing with a cloth.* Too much dressing is wasteful.

85.

EQUIPMENT

(Instructions issued by the Ordnance Department in Pamphlet No. 1965, July 12, 1915.)

Cloth Equipment

General. All cloth equipment should be brushed frequently with a stiff bristle brush. A dry scrub brush may be used.

It should be washed only under the direction and supervision of an officer.

During ordinary garrison duty it should rarely be necessary to wash the equipment.

When the equipment becomes soiled a light local washing will frequently be sufficient, but when dirty it should unhesitatingly be given a good thorough washing—otherwise it may be expected that it will become unsanitary and rot.

During field service it is to be expected that the equipment will become soiled much more rapidly. Always on return to garrison from field service and as opportunity offers in the field, equipment should be thoroughly washed.

Instructions for washing cloth equipment

(a) *Preparation of soap solution.* Dissolve in nine cups of hot water one cake of H. & H. soap or a substitute which is issued by the Ordnance Department.

One cup of this solution is sufficient to clean the entire cloth and wet equipment of one man. One cake per squad is a liberal allowance.

The H. & H. soap issued by the Ordnance Department is made especially for washing cloth fabrics liable to fade. If for any reason this soap is not obtainable, a good laundry soap (Ivory or equal) may be used, but in no case should the yellow soap issued by the Quartermaster Corps be used.

(b) *Brushing.* Brush the equipment thoroughly to remove all dust and mud before washing.

(c) *Washing.* Spread the belt, haversack, etc., on a clean board or rock and apply the soap solution with a scrub brush. When a good lather appears, wash off with clear water.

In the case of a bad grease spot the direct application of soap to the brush will ordinarily be sufficient to remove it.

(d) *Drying.* Always dry washed equipment in the shade. The sun will bleach the fabric.

On return from a march in the rain, dry the equipment in the shade, if practicable.

Shelter tent. The shelter tent is cleaned and cared for as prescribed above for the cloth equipment.

When practicable always dry your shelter tent before folding and packing it. (Author)

86.

THE RIFLE

Importance. The care of his rifle should be the soldier's first thought; for, if he would have it take care of him in time of danger, he must take care of it at all times.

It is a generally recognized fact that more rifles become inaccurate and unserviceable by the lack of care than by firing.

The instructions for taking care of the rifle are few and simple. Learn them well and *apply them constantly*—it only requires a little care and patience. You will be well repaid for it. It may some day save your life.

Care of the Bore

It requires work. The bore of the rifle is manufactured with the greatest care in order that a high degree of accuracy may be obtained, and it should, therefore, be properly cared for.

The proper care of the bore requires conscientious, careful work, but it pays well in reduced labor for cleaning and in prolonged accuracy life of the rifle, and better results in target practice.

How to clean the bore. With the cleaning rod the bore must always be cleaned from the breech—never from the muzzle. Cleaning from the muzzle is liable to wear and otherwise injure the mouth of the barrel, which is easily injured and thus the piece rendered inaccurate.

First, remove the bolt from the rifle, place the muzzle on the floor, a board, or piece of canvas, and do not remove it therefrom while the cleaning rod is in the bore. Never place the muzzle on the bare ground, lest dirt should get into it.

(Note. Of course, if a rack is provided for cleaning rifles, it should be used instead of placing the muzzle on the floor.)

To clean the bore use patches of rag, preferably cotton flannel, cutting them into squares of such size that they may easily run through the barrel.

What care of the bore consists of. Briefly stated, the care of the bore consists of removing the fouling resulting from firing to obtain

a chemically clean surface, and then coating this surface with a film of oil to prevent rusting.

Kinds of fouling. The fouling which results from firing is of two kinds—the *powder fouling*, from the burning of the powder; and the *metal fouling*, from the nickel scraped off the bullet as it passes through the bore.

The *powder fouling* is highly corrosive, that is, it causes rust and eats into the metal, and it must, therefore, be removed as soon as possible.

The *metal fouling* itself will not cause rust, but it may cover the powder fouling and thus prevent the cleaning material from getting at the powder fouling, which, as stated before, will eat into the metal. When metal fouling accumulates in noticeable quantities it reduces the accuracy of the rifle.

How to remove powder fouling. Powder fouling may be readily removed by scrubbing the bore with the soda solution (hot) furnished by the Ordnance Department, but this solution has no effect on the metal fouling.

It is, therefore, necessary to remove all metal fouling before we are sure that all powder fouling has been removed and that the bore may be safely oiled.

Ordinarily, after firing a barrel in good condition, the metal fouling is so slight as to be hardly perceptible, and is easily removed by solvents.

However, due to the accumulation of metal fouling, pitting (little hollows in the metal) or the presence of dust, or other abrasives (substances that cause the metal to wear away by rubbing), the fouling may occur in clearly visible flakes or patches and be much more difficult to remove.

How to remove metal fouling. After scrubbing out the bore with the soda solution, plug it from the breech with a cork at the front end of the chamber or where the rifling begins.

Slip one of the 2-inch sections of rubber hose over the muzzle down to the sight and fill with the standard Ordnance Department solution to at least one-half inch above the muzzle of the barrel.

Let it stand for 30 minutes, then pour out the solution, remove the hose and breech plug, and swab out thoroughly with soda solution to neutralize and remove all trace of ammonia and powder fouling.

Wipe the barrel clean, dry, and oil.

With few exceptions, one application is sufficient but if all fouling is not removed, repeat the operation.

How to proceed in cleaning the bore.

To clean the bore after firing, proceed as follows:

Swab out the bore with soda solution to remove powder fouling. A convenient way to do this is to insert the muzzle of the rifle into the can containing the solution and with the cleaning-rod inserted from the breech, pump the barrel full a few times.

Remove and dry with a couple of patches of cloth. Examine to see whether any patches of metal fouling are in evidence, and if so, then remove same as explained above. If no metal fouling is in evidence, then swab out with the swabbing solution. The amount of swabbing required with the swabbing solution can be determined only by experience assisted by the color of the patches of cloth. Ordinarily a couple of minutes' work is sufficient. Dry thoroughly, and oil with 3-in-One.

As a measure of safety a patch should *always* be run through the bore on the next day and the bore examined to insure that cleaning has been properly done. The bore should then be oiled again with 3-in-One.

Necessity for preventing formation of pits. It is a fact recognized by all that a highly polished steel surface rusts much less easily than one which is roughened; also that a barrel which is pitted fouls much more rapidly than one which is smooth. Every effort, therefore, should be made to prevent the formation of pits, which are merely enlarged rust spots, and which not only affect the accuracy of the piece but also increase the labor of cleaning.

If swabbing solution or standard metal fouling solution is **not available**, the barrel should be scrubbed as already described, with the soda solution, dried, and oiled with a light oil. At the end of 24 hours it should again be cleaned, when it will usually be found to have "sweated." Usually a second cleaning is sufficient, but to insure safety it should be again examined at the end of a few days, before final oiling.

Of course, the swabbing solution should always be used, if available, for it must be remembered that **each "puff" when the bore "sweats" is an incipient rust pit.**

What has just been said contemplates the use of the solutions furnished by the Ordnance Department. However, the same result will be obtained with less labor by using Hoppe's Nitro Powder Solvent No. 9, which is sold by all post and camp exchanges, and which the author, as the result of experience, highly recommends.

How to oil a barrel. The proper method of oiling a barrel is as follows:

Wipe the cleaning rod dry; select a clean patch of cloth and smear it well with sperm or warmed cosmic oil, being sure that the cosmic

has soaked into the patch well; scrub the bore with patch, finally drawing the patch smoothly from the muzzle to the breech, allowing the cleaning rod to turn with the rifling. The bore will be found now to be smooth and bright so that any subsequent rust or "sweating" can be easily detected by inspection. (By "sweating" is meant, rust having formed under the coating of metal fouling where powder fouling was present, the surface is puffed up.)

Care of the chamber. The chamber of the rifle is often neglected because it is not readily inspected. Care should be taken to see that it is cleaned as thoroughly as the bore. A roughened chamber delays greatly the rapidity of fire, and not infrequently causes shells to stick.

The bolt. To clean the bolt, remove; clean all parts thoroughly with an oily rag; dry, and before assembling *lightly* oil the firing-pin, the barrel of the sleeve, the striker, the well of the bolt, and all cams.

The sights. Both the front and rear sights should be cared for just as you would care for the works of your watch. If the sights are injured, the rifle will not shoot as aimed.

The front sight cover issued by the Ordnance Department protects the front sight.

The magazine. The magazine should be kept clean and covered with a thin coat of oil.

The stock. The stock should receive a light coat of raw linseed oil once a month, or after any wetting from rain, dew, etc. The oil should be thoroughly rubbed in with the hand.

Care of the mechanism. When the rifle has been wet or exposed to unfavorable climatic conditions, the bolt should be withdrawn and all working parts carefully wiped with a dry cloth, and then gone over with an oily rag.

The same thing should be done after firing.

All working parts should habitually be *lightly* oiled with a thin-bodied oil, such as "3-in-One."

The care of all metal parts. All metal parts of the rifle should be kept clean and free from rust.

Cams and bearings. All cams and bearings must be kept constantly oiled.

How to apply oil. Do not pour or squirt oil on the rifle.

Put a few drops on a piece of clean cloth, preferably cotton, and rub with the cloth, thereby avoiding the use of an unnecessary amount.

Cams and bearings can be oiled this way. However, if the oiler is used instead because of greater ease in reaching them, oil them

lightly. To soak with oil accomplishes no more than to cover with a light coating—it merely results in excessive, undesirable smearing and a waste of oil.

Remember

1. It is easier to prevent than to remove rust.
2. To remove rust, apply oil with a rag, and let it stand for a while so as to soften the rust; then wipe with a dry rag.
3. Emery paper or a burnisher must never be used in removing rust, for it also removes the bluing.

However, an ordinary rubber eraser will be found very serviceable for removing rust.

4. To prevent rust and dirt in the bore, run a rag through at least once each day.

5. Never, under any circumstances, put away a rifle that has been fired or exposed to bad weather, without first cleaning it.

6. Never lay your rifle flat on the ground. Not only is there danger of dirt or other foreign matter getting into the bore, but a vehicle may run over it, or some one may step on the sight. Always rest it up *securely* against something.

7. In coming to the order from any position, always bring the rifle to the ground *gently*.

Army Regulations Regarding the Rifle

Are enlisted men allowed to take their arms apart?

No; not unless they have the permission of a commissioned officer, and even then only under proper supervision and in the manner prescribed in the descriptive pamphlet issued by the Ordnance Department. (A. R. 292)

(Except when repairs are needed, the following named parts should never be dismantled by the soldier, and whenever they are taken apart they should be removed only by the company mechanic, or someone else familiar with the handling of tools and delicate mechanism: Bolt stop, cut off, safety lock, sleeve lock, front sight, front sight movable stud, lower band, upper band, and stacking swivel screws.

(Unless the screw driver is handled carefully and with some skill the screws are sure to be injured either at the head or thread. The soldier may dismount the bolt and magazine mechanism for the purpose of cleaning them, but he is not permitted to do any further dismantling without the authority of a commissioned officer.)

Is the polishing of blued and browned parts permitted?

No, and rebluing, rebrowning, putting any portion of an arm in fire, removing a receiver from a barrel, mutilating any part by fire or otherwise, and attempting to beautify or change the finish, are prohibited. However, the prohibition of attempts to beautify or change the finish of arms is not construed as forbidding the application of raw linseed oil to the wood parts of arms. This oil is considered necessary for the preservation of the wood, and it may be used for such polishing as can be given when rubbing in one or more coats when necessary. The use of raw linseed oil only is allowed for redressing and the application for such purpose of any kind of wax or varnish, including heelball, is strictly prohibited. (Army Regulations 292)

Is the use of tompons¹ in small arms permitted?

No, it is prohibited by regulations. (Army Regulations 292.)

Should pieces be unloaded before being taken to quarters or tents?

Yes, unless it is otherwise ordered. They should also be unloaded as soon as the men using them are relieved from duty. (Army Regulations 292)

Should a loaded or unloaded rifle or revolver ever be pointed at anyone in play?

No, under no circumstances whatsoever. *A soldier should never point a rifle or revolver at a person unless he intends to shoot him.*

87.

MESS OUTFIT

Knife. The knife blade is made of tempered steel, and when put away for a long period should be covered with a light coating of oil to prevent rust.

Keep your knife clean by washing in soap and water after every meal.

Do not use the blade as a pry.

If the point is broken, grind the blade down to a new point.

Fork. Keep your fork clean by washing with hot water and soap after every meal.

Never use the prongs of your fork for prying open tops of cans, extracting corks, etc.

Don't permit your knife, fork, or spoon to remain in vinegar or other foodstuffs for a long period, as verdigris will form. This corrodes the metal and is poisonous.

¹ Wooden stoppers or plugs that are put into the muzzles of rifles and other arms to keep out dirt and water.

Spoon. Keep your spoon clean by washing with soap and water after every meal.

Meat can. Do not carry meat of any kind or other greasy substance in the meat can for a long period, as it will corrode the aluminum.

If the rivets securing the hinge to the meat can become loose, a few blows with a hammer or hand ax on the outside ends of the rivets, the heads of the rivets being backed up on a piece of metal, will tighten them.

If the hinge pin becomes loose, a nail can be used to replace it, the nail being cut with a service wire cutter and the ends of the nail headed over slightly with a few blows of the hammer.

Bacon can. The interior of the bacon can should always be kept clean and free from hardened grease or dirt by frequent washings with soap and water.

If the cover becomes loose on the body of the can, the upper half of the body may be bent out until the cover is again tight.

If the cover is too tight, a slight amount of flattening with a hammer on the edge of the cover, resting on a wooden block, will usually extend the cover sufficiently.

Condiment can. When not in use, always remove the contents. Many cans have been ruined by neglecting to do this.

See that the threaded ends do not become rusty.

The can should be disassembled at all inspections, so that the inspecting officer may see that no rust is present.

Cup. The cup is made of aluminum and excessive heat damages aluminum.

In using the cup for cooking never allow the contents to evaporate entirely. In other words, never hold an empty cup over a fire.

Keep your cup clean with hot water and soap—preferably H: & H. soap.

Canteen. Although as a rule, only soap and water should be used in cleaning aluminum, a little sand can be used to advantage in cleaning the canteen.

Particular attention must be taken to see that canteens are properly cleaned after they have been filled with coffee, milk, or any other fluid containing organic matter.

Being made of aluminum the canteen is easily dented, and care must be taken to prevent this.

When not actually in use the canteen should habitually be emptied and the cup left off to dry.

88. INTRENCHING TOOLS

Pick mattock. If the blade of the mattock is deformed, it it should be straightened in a vice.

In the field, cracked handles of pick mattocks, shovels, and hand axes should be wrapped with cord.

Shovel. Do not use the side edges of the shovel blade as a mattock, for this will deform the blade.

If the blade becomes bent, straighten it with a hammer on a block of wood.

Keep your intrenching tool free from rust, being especially careful that no rust gets into the sockets.

89. LEATHER EQUIPMENT

General. Because of the value of leather equipment and its rapid deterioration if neglected, the proper care of leather is most important.

Materials. Two agents are necessary to the proper cleaning of leather—a *cleaning agent* and an *oiling agent*.

The *cleaning agent* issued by the Ordnance Department is castile soap; the *oiling agents* are neat's-foot oil and harness soap.¹

The soap cleans the surface of the leather, and removes from the surface pores of the leather, dirt, sweat, and other foreign matter, so that the oil can more readily penetrate the pores and saturate the fibres, thus making the leather pliable and elastic.

Cleaning. Daily, or as often as used, leather equipment should be wiped off with a cloth slightly dampened in water, merely to remove mud, dust, or other foreign substances.

This daily care will do much to maintain the appearance of the equipment, but it is, however, insufficient of itself to properly preserve it.

Leather should never be cleaned by immersing in water or holding under a hydrant.

At intervals of from one to four weeks, depending upon the circumstances, it is essential that the equipment be thoroughly cleaned in accordance with the following instructions:

¹Proper's Harness Soap is excellent. However, since the European War its issue has been discontinued by the Ordnance Department. "Viscol," obtainable from the post exchange, is the best oil for softening all kinds of leather that the author knows of.

(a) Separate all parts, unbuckle straps, remove all buckles, loops, etc., where possible.

(b) Wipe off all surface dust and mud with a damp (not wet) sponge. After rinsing out the sponge, a lather is made by moistening the sponge in clear water, squeezing it out until nearly dry, and rubbing it vigorously upon castile soap. When a thick, creamy lather is obtained, thoroughly clean each piece of the equipment without neglecting any portion. Each strap should be drawn its entire length through the lathered sponge so as to actually remove the salt, sweat, and dirt from each leather piece.

(c) After again rinsing the sponge make a thick lather as described above with the saddle soap. Go over each separate piece, thoroughly working the lather well into every part of the equipment, remembering that its action is that of a dressing.

(d) After the leather has been allowed to become partially dry, it should be rubbed vigorously with a soft cloth to give it the neat, healthy appearance that is desired.

Oiling. If the foregoing instructions have been carefully followed, the appearance should now be perfect, and if the leather is soft and pliable nothing further is required. It will be found, however, that it will be necessary from time to time to apply a little oil. It is not practicable, owing to different conditions of climate and service, to prescribe definitely the frequency of oiling. It has been found that during the first few months of use a set of new equipment should be given at last two applications of oil per month. Thereafter it is entirely a matter of judgment, as indicated by the appearance and pliability of the leather. Frequent, light applications are of more value than infrequent heavy applications.

New equipment. Before using, perfectly new equipment should in all cases be given a light application of neat's-foot oil; soap is unnecessary because the leather is clean. The application of oil is important because leather equipment frequently remains a considerable time in an arsenal or depot and in spite of periodical inspections and dubbing it is probably too dry for severe service.

How to apply oil. The quantity of oil to be used can not be definitely prescribed. If not enough oil is used, the leather will be stiff and brittle; if too much is used, it will soil the clothing and accumulate dirt. The leather should, therefore, be saturated with sufficient oil to be soft and pliable without excess sufficient to cause it to exude.

In applying the oil the following general instructions should govern:

(a) The oil should be applied to the flesh side of the equipment, where practicable, when the leather is clean and still damp after washing (about half dry), because it penetrates more uniformly when applied from the flesh side, and when the leather is damp. If the leather is dry it will absorb the oil like blotting paper, preventing proper distribution.

(b) The oil should be applied with an oiled rag or cotton waste by long, light, quick strokes—light strokes, so that the pressure applied may not squeeze out an excess of oil; quick strokes, so that the leather may not absorb an undue amount of oil. The endeavor should be to obtain a light, even distribution.

(c) After applying the oil the leather equipment should be allowed to stand for 24 hours, if practicable, in a warm dry place. It should then be rubbed with a dry cloth to remove any unabsorbed oil.

POINTS TO BE REMEMBERED

Therefore, from what has been said, the following points must be remembered:

(a) Keep leather clean.

(b) Keep leather pliable by frequent applications of oil.

(c) Use only materials furnished by the Ordnance Department.

Shoe polishes, etc., are almost invariably injurious.

(d) *Dry all leather wet from whatever cause, in the shade; never in the sun or close to a steam radiator, furnace, or boiler.*

(e) Leather should habitually be stored in a cool, dry place, *without artificial heat.*

THIRD TEN DAYS

90. Guard duty. Instruction in the duties of sentinels by recitation in the Manual of Interior Guard Duty and by practical illustration of posting sentinels, saluting on post, challenging, etc.

Repetition of such parts of previous instruction as may be necessary.

CHAPTER VIII

THE SERGEANT-MAJOR

91. Relations with the Adjutant. The Sergeant-Major's relations with the Adjutant are close and confidential, and he should give the Adjutant his entire, unqualified support. His loyalty should be absolute, and under no circumstances should he ever, by act or word, directly or indirectly, criticize the action of the Adjutant, *nor should he ever, under any condition, talk outside about the official business of the office*—this is not only unbusinesslike and unmilitary, but it is also a betrayal of official confidence which almost invariably leads to trouble.

As the Adjutant is the Commanding Officer's mouthpiece in communicating with the officers and enlisted men of the command, so is the Sergeant-Major the Adjutant's mouthpiece in transmitting orders and instructions through the First Sergeants. Any directions that he may give to the First Sergeants are obeyed just as if they came from the Adjutant himself.

Find out how the Adjutant wants the work done and then follow his ideas without question.

As the Adjutant should try to anticipate the wishes of the Commanding Officer and then act accordingly, so should the Sergeant-Major try to anticipate the wishes of the Adjutant.

92. Dress and bearing. In neatness and correctness of dress and in soldierly bearing, he should be faultless, setting an example to the rest of the enlisted men of the command. *He should try to be the most military soldier in the command.* He should cultivate soldierly qualities, and be just, pleasant and courteous to everyone. He should be especially careful not to show favoritism in his dealings with the First Sergeants.

93. Necessary knowledge. An efficient Sergeant-Major must know the Army Regulations, the Drill Regulations, the Manual of Interior Guard Duty and so much of the Courts-Martial Manual and the other manuals as pertains to his duties. He should read carefully *all* War Department, Department and other orders and circulars that may be received. He should try to be the best informed soldier in the command.

94. General duties. Under the direction of the Adjutant he prepares all orders, makes all reports and returns, keeps all records and rosters affecting enlisted men, and has charge of all correspondence pertaining to the office. He is assisted in this work by as many clerks as may be necessary.

In the clerks' office he is the representative of the Adjutant and his orders must be obeyed without question.

95. Usual duties. In practice the usual duties of a Sergeant-Major in a well-regulated office are about as follows:

He keeps the Army Regulations posted and every Monday morning places on the Adjutant's desk for signature all books requiring the signature of the Adjutant or the commanding officer.

Should either of these officers go on leave or be ordered to a new station, he should see that all books are presented to them for signature before they leave.

The Sergeant-Major regulates daily all clocks in the office, obtaining the correct time, when practicable, from the Western Union or the Postal Telegraph office.

In case of officers casually at post, the dates of arrival and departure are entered on the Morning Report.

A record is kept of all blank forms, pamphlets, etc., sent from the office.

Whenever a letter is written, an order published, a communication received or verbal instructions given, requiring future action on the part of the office, or someone else to or through the office, a check is made against such action.

All books, pamphlets, etc., should be plainly marked, "Adjutant's Office," or "Office of Commanding Officer," as the case may be, and no books, pamphlets, maps, or records of any description should be taken from the office without the permission of the Adjutant, and in every case the article should be charged against the proper person.

He has immediate charge of all property at post headquarters that is held on memorandum receipt by the Adjutant, and he takes an inventory of same once every quarter.

If soldiers of other commands, especially those of other arms of the service or of the staff corps, are casually at a post, the Sergeant-Major should make it his special business to see that they are properly cared for. Very often there is a tendency to "run it" on casuals, especially if they belong to another branch of the service.

(Casuals reporting at a post are assigned to organizations for rations and quarters by the Sergeant-Major. It is a good idea

to have a casual company for one month and then change to another company.)

96. "CUSTOMS OF THE SERVICE" AFFECTING THE ADJUTANT'S OFFICE

Enlisted men and civilian attachés desiring to speak to the commanding officer, first see the Adjutant.

It is also the prevailing custom for officers, except members of the staff, who wish to see the commanding officer at his office, first to address themselves to the adjutant, older officers by usually asking, "Is the commanding officer occupied?" and younger officers, "May I see the commanding officer?"

In some commands it is customary for enlisted men who wish to speak to the Adjutant to see first the Sergeant-Major, who informs the Adjutant.

The Adjutant wears his saber when placing officers in arrest.

Before detailing men on special or extra duty, it is customary to ascertain from their company commander whether there are any military reasons why the details should not be made, and in other cases, unless by roster, orders should not specify individuals by name, e. g., "The Commanding Officer, Co. 'A,' 24th Infantry, will send a detachment consisting of one noncommissioned officer and six privates, etc."

Officers not under arms usually remove their caps upon entering the Adjutant's Office. This is proper not only because one gentleman should always remove his cap upon entering the office of another, but the Adjutant's Office is, in effect, the commanding officer's office.

Regarding officers returning from drills, courts-martial, etc., with side arms, the prevailing custom seems to be for them to remove their caps upon entering the office of the Adjutant.

It is not usual for the officer of the day to remove his cap while in the Adjutant's Office on business not connected with his duties as officer of the day, although some officers make it a rule to do so. If in the commanding officer's office and the official relations are relaxed, the prevailing custom is to remove the cap.

The expression often used in orders to "report to the commanding officer" means to "report to the Adjutant," regardless of the relative rank of the officer reporting and the Adjutant.

When an officer of the command is appointed Brigadier-General, a sergeant (in some regiments a corporal) is ordered with-

out delay to report to him for duty as orderly as long as he is in the post.

When a general officer comes to a post, a sergeant is at once ordered to report to him for duty as orderly.

(In some regiments a sergeant reports as orderly to a Major General and a corporal to a Brigadier-General.)

Whenever an inspector visits a post, a private reports to him as orderly.

97. BUSINESS ROUTINE OF THE OFFICE

Everything about the Adjutant's Office should be indicative of system, order, and neatness, and the business of the office should be transacted in a prompt, systematic, and businesslike manner. The duties of the sergeant-major, the clerks, the telephone orderly, the janitor, and all others connected with the office should be clearly defined and everyone made to live up to the requirements thereof.

While the Sergeant-Major should not try to do everything himself, he should not trust too much to his clerks. He should systematize the work of the office and so distribute it among his subordinates, that all will have an equal share, overseeing and verifying everything himself as far as possible.

Hold each man strictly responsible for the work assigned him.

Regulations similar to the following should be printed or typewritten, posted in the office, and strictly enforced:

CLERKS

1. All clerks and other persons on duty in the Adjutant's Office are prohibited from furnishing any information whatever on subjects pertaining to the business thereof.

2. The office hours for the clerks will be from 7:30 A. M. to 12 M., and from 1:30 to 5:00 P. M.

All clerks will report promptly at 7:30 A. M. and 1:30 P. M.

In case of emergency the work will be pushed through without regard to hours.

3. Only the necessary office work for that day will be done on Sundays and holidays, and in the absence of work requiring immediate attention, the clerks will be excused on holiday afternoons.

4. No Clerk will leave the office without first obtaining permission from the senior noncommissioned officer present, reporting his destination and probable duration of absence.

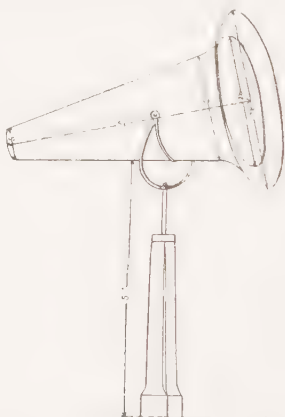
5. All bells will be answered promptly. In case of the absence of the clerk rung for, the next junior in rank shall answer the call. The bell calls are as follows:

6. Loud talking, whistling, singing, and other unnecessary noises are forbidden.

While the Sergeant-Major should be firm with his clerks and other subordinates, he should always treat them with proper consideration. Do not make drudges of them. By being considerate, fair and courteous, yet firm, you will get more work and better service out of them.

MUSICIAN OF THE GUARD¹

1 Immediately after marching on guard the musician of the new guard will proceed to the Adjutant's Office, reporting to the Adjutant: "Sir, Musician, —————, Company, —————, reports as musician of the new guard. After having received his instructions from the Adjutant, he will relieve the musician of the old guard, receiving from him any special instructions that he may have.



2 After having been relieved by the musician of the new guard, the musician of the old guard will report to the Adjutant, "Sir, Musician, —————, Company, —————, reports having been relieved as musician of the old guard."

3 The musician of the guard will sound the first call for all formations, schools of instruction, etc., except for reveille, as follows:

At some posts, all calls are sounded through a megaphone, resting on a vertical, revolving axis.

¹ The Musician of the Guard, especially at small posts, is often employed as orderly in the Adjutant's Office.

First. On the parade ground, about fifty yards in front of the Adjutant's Office.

Second. At such place or places as those concerned can hear the call.

The Assembly will be sounded about fifty yards in front of the Adjutant's Office.

4 The musician of the guard will remain at the Adjutant's Office from the time he marches on *until taps*, and from breakfast until the time he marches off.

5 The sounding of all calls will be regulated by the clock in the Adjutant's Office.

6 The bells will be answered promptly and in case the musician of the guard be absent, his bell will be answered by the janitor. In the absence of the janitor, his call will be answered by the musician of the guard.

The musician's call is one long ring; the janitor's one long and one short.

7 All communications will be delivered promptly, and the initials of the receiver obtained in the delivery book, with the hour and date of receipt.

8 Except in urgent cases, communications will not be delivered to officers in the afternoon or at any time while they are at meals.

9 The musician of the guard will at all times wear the uniform of the guard.

10 The instructions of the commanding officer's orderly regarding the receipt and delivery of messages will also be observed by the musician of the guard.

JANITOR

1 He will look after the furnace and have general charge of the policing of the Administration Building, keeping the officers of the commanding officer, the adjutant, the quartermaster and the sergeant-major in a clean and orderly condition.

2 The desks in particular will be kept in a neat and orderly condition, and care will be taken not to misplace any papers that it may be necessary to move.

3 The offices will be in proper condition by 7:30 A. M.

4 The lavatory and water closet will be thoroughly cleaned daily; special attention being given to the urinals. Brass door knobs, metal parts of urinals, etc., will be kept polished, and the window panes will be kept clean.

5 Great care against accident will be exercised in operating the furnace.

6 The temperature will be noted frequently, and the offices and other rooms will be properly ventilated, lowering the windows from the top.

7 The janitor will go to his meals 30 minutes before mess call.

8 His bell call is one long and one short ring.

LABOR-SAVING DEVICES AND CONVENIENCES

98. **Delivery envelopes.** An excellent system for delivering communications, orders, and other papers to officers, and getting their receipt therefor, is to use a heavy Manila envelope about 10 x 4½ inches, with the office or the officer's name written across the top and a slip of paper the size of the envelope, with one end pasted across the envelope,

C. O. Co. "A", 1ST INFTRY.		
1916	CONTENTS	Sign
11/23	Par. 6, S. O. 184, W. L.	J. A. M.
11/25	Report of Survey #02358	J. A. M.
12/2	Letter A. G. O. #2868	J. A. M.
12/4	Memo. Pay Day	J. A. M.
12/8	D. & A. Card - Ret. Smith	J. A. M.

Fig. 1

the office or the officer's name written across the top and a slip of paper ruled as shown below, are entered brief descriptions of the papers that

INFORMATION SLIP
HEADQUARTERS CAMP GAILLARD

March 12/16.

Attached referred to:-

C. O. -----

Quartermaster

Surgeon

Police Officer

Survey Officer

✓ Summary Court

✓ Post Exchange Officer

Ordnance Officer

Engineer Officer

Judge Advocate

For:-

Notation and return

Necessary action

File

✓ Remark

✓ Investigation and report

Recommendation

Correction as indicated

Information and guidance

Any objection to this detail

Morris,

Capt., 29th Infantry
ADJUTANT.

are put in the envelope, and for which the officer acknowledges receipt by signing his initials in the proper column. Communications for an officer are put in his envelope, which is placed in the officer's compartment of the pigeon-hole box described in Par. 111. In case a paper must be delivered at once, then the envelope is sent by an orderly to the officer concerned, who initials and returns the envelope by the orderly.

99. Information slips. Time and labor can be saved by using printed or mimeographed Information Slips about $2\frac{1}{2} \times 7$ inches, per the model shown in Fig. 2, which, with the officer's name, or the office concerned and the action to be taken, checked off as indicated in Fig. 2, are attached to papers referred to officers in cases where formal indorsements are not necessary.

100. Bulletin board. Another convenience is to have in the Adjutant's Office a bulletin board on which is posted each day a bulletin as shown below, announcing guard and other details for the following day, calling for certain information from organization commanders and others, and making various announcements; also, judge advocates post on this board notices of meetings of courts, and notices of meetings of the post exchange council are likewise posted by the president of the council. In other words, the bulletin board answers the purpose of a sort of daily official gazette. Of course, the use of such a bulletin board presupposes that an order has been issued requiring all officers to report at the Adjutant's office at a certain time daily (say, between 11:30 and noon) and examine the board.

("Model" Daily Bulletin)

Headquarters Camp Gaillard, Canal Zone
December 5, 1916

DAILY BULLETIN—NO. 292

1. Detail for tomorrow, December 6, 1916:
Company H, 29th Infantry will be for guard.
For officer of the day: Captain Keller.
2. Captain Butcher is detailed to audit the accounts of the Post Exchange this P. M.
3. Organization commanders will submit a list of the names of men of their organizations that desire to have dental work done. These lists will be submitted in duplicate not later than the 15th instant.
4. There will be a meeting of the POST GRADUATE SCHOOL at 2:00 P. M. this date.
5. Tomorrow, Wednesday, December 6, there will be general police of the garrison, battalion commanders supervising the police of the organizations in their battalions.
6. There will be a meeting of the POST EXCHANGE COUNCIL at the Post Exchange at 3:15 P. M., this date.
7. Major John J. Bradley is detailed as Summary Court Officer—VOCO December 5, 1916.
8. Two (2) fatigue men from each lettered company will report for fatigue to the range officer daily, except Sundays and holidays, from December 7 until further orders.
9. There will be a ball game this P. M. at 2:30—29th Infantry vs. 5th Infantry.

10. There will be a regimental practice march tomorrow, with full pack, less rations. The regiment will form at 8 A. M. in column of squads, facing west, the head of the column in front of the guard-house.
11. During the remainder of the month, Friday is set aside for regimental field work.
12. Officers leaving the post on leave will make the reports required by Par. 64, A. R.
13. Requisitions for blank forms from the A. G. Dept., for period January 1-June 30/17, to be submitted by the 28th instant.
14. Battalion commanders by making timely requests on the Surgeon will be able to secure, if desired, an ambulance and attendant to accompany their battalions on practice marches.
15. All Officers of this camp are invited to attend a "Tacky" party at Corozal, Friday night, December 8.

By ORDER OF COLONEL MALLORY:

Jas. A. Morris,

Captain, 29th Infantry

Adjutant.

101. Rubber stamps. Self-inking rubber stamps (that is, those mounted on metal frames) are considered the most satisfactory, as the impressions are always clear, clean-cut, uniform, and well aligned. They may be obtained upon requisition on the quartermaster. The following will prove useful:

1. (Fig. 3.)
2. APPROVED.
3. Colonel, 50th Inf.;
Comdg.
(*For commanding officer.*)
4. Captain, 50th Inf.;
Adjutant.
(*For the Adjutant.*)
5. TO THE QUARTERMASTER.
6. TO THE ORDNANCE OFFICER.
7. Received Hq.; Fort Niagara, N. Y.
8. Received back Hq.; Fort Niagara, N. Y.
9. JAN. 1, 1917.
(Dating stamp.)



Fig. 3

102. Dating and numbering stamp. If the office uses the card record system prescribed by G. O. O. 2, 1909, get a dating and numbering stamp, the following being an imprint of such a stamp:

HEADQUARTERS
DEC 9 02888 1916
CAMP CAILLARD, CZ.

Fig. 4

103. Four-basket system. The four-basket system consists of four wire or wicker baskets, or four light, flat, wooden boxes, kept on the Adjutant's desk and marked: "IN," "COMMANDING OFFICER," "HOLD," and "OUT."

All mail, pass-lists, and other incoming matter are placed in the "In" basket.

All papers requiring office marks, the typewriting of indorsements, or other action in the Sergeant-Major's office, as well as all communications ready for mailing, delivery, etc., are placed in the "OUT" basket, which is emptied by the Sergeant-Major from time to time during office hours.

The Sergeant-Major places in the "In" basket all papers requiring the signature of the Commanding Officer or the Adjutant.

Papers for the signature or other action of the Commanding Officer are placed in the "COMMANDING OFFICER" basket by the Adjutant.

Communications which cannot be acted upon at once, first have entered upon them the proper office marks and are then placed in the "HOLD" basket. The contents of this basket must be examined daily.

Under no circumstances should papers be allowed to lie around loose on the Adjutant's desk. Each and every paper should be placed in its proper basket and made fast with a paper-weight.

104. Adjutant Card-system "Tickler." Get an Adjutant's card-system "Tickler," which is issued by the Quartermaster Corps, like any other article of office furniture (Cir. 28, O. C. Q. M. C., 1913, pages 37 and 113). It is used—

Primarily, in connection with the prompt rendition of all reports, returns, estimates, and requisitions required by Army Regulations and orders from higher authority to be made by, to, or through post commanders.

Secondarily, as a suspended file, to recall at the proper time things to be done or matters to be considered at any time in the future
For example:

- | | |
|---|----------------------|
| (a) Periodical and other reports and returns to be rendered to or by the office. | } By a certain time. |
| (b) Communications that should be returned to or by the office. | |
| (c) Information that should be furnished to or by the office. | |
| (d) Orders, letters, and verbal directions requiring action by the office or by subordinates. } | |

If, for instance, communication number 100, that should be returned to the office not later than the 20th of the month (November) is mailed Captain John A. Smith, on the 10th, then fill out and file in front of the "20" guide card a card like this:

Number of communication	To whom sent	When	To be returned	Remarks
100	Capt. Smith	Nov. 10	Nov. 20	

On the morning of the 20th, when the "19" guide card is removed from in front and placed in rear, the check card will show up.

If the communication has not been returned, just keep on advancing the filing date of the check card until the paper does return.

An alphabetical list of the names of the persons to whom communications are sent should be kept (preferably by means of cards) with the filing dates of the check cards opposite each name. For instance, after Captain Smith's name would be noted, November "20." In this manner, should the communication be returned before November 20, by reference to the alphabetical list the filing date can be ascertained at once and the check card found and removed from the file without having to look over the check cards of several dates.

A supply of check cards with proper heading should be printed, mimeographed, or hectographed.

SUNDAY MONDAY TUESDAY WEDNESDAY THURSDAY FRIDAY SATURDAY

1. Officer of the Day detail } Par 30.
 2. Officer of the Guard detail } M G D

3. Telegraphic report of enlistments during past week, by Recruiting Officer (usually the Adjutant), to A. G., U. S. A Telegram A. G. O., March 26, 1903. (Form: Adjutant General, Washington, D. C., Enlistments past week: "A" *Army Journal Register, Inc.*)
 To be submitted only when any enlistments have been made

JULY AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER
JANUARY FEBRUARY MARCH APRIL MAY JUNE

January 1

NATURE	FORM	AUTHORITY	REMARKS
Requisition for Stationery for Post Hdqrs.	41 Q M D	A R 1136	To Quartermaster
Estimate of Clothing and Equipage from Quartermaster.	53 Q. M. D.	A. R. 1287 & 1288, amended by G. O. 82, A G. O., 1902	3 copies to Chief Q. M. Dept.

Fig. 5

(Card-system "Fickler," furnished by the Quartermaster Corps, like any other article of office furniture.)

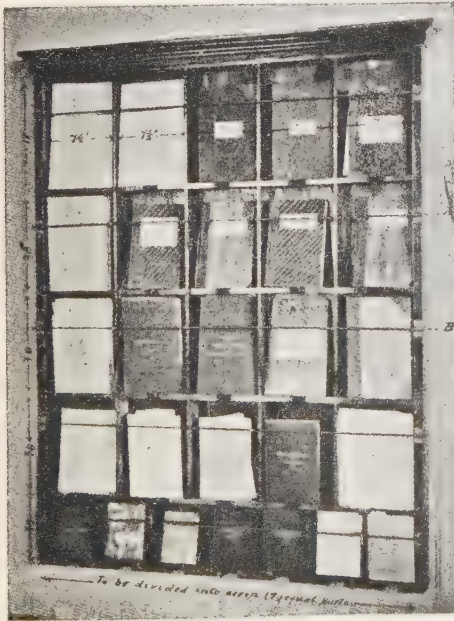
105. Printing press. When post and regimental headquarters are located at the same station, a printing press purchased from the regimental fund, is a big convenience for printing forms, orders, concert programs, etc.

106. Duplicating devices. In case it be not possible to get a printing press, a good first-class duplicating device can be made to answer the same purpose in most cases.

107. Typewriters. It goes without saying that now-a-days no office is complete without at least one typewriting machine, which can generally be obtained from the Quartermaster Corps on memorandum receipt.

It is suggested that a Corona machine, which is used throughout the service, be obtained for field work. Not only is this machine very much less bulky and very much lighter than other machines, but it will also stand harder usage. The Corona Folding Stand adds very much to the convenience of the machine for field use.

108. Electric bells. (Generally obtainable from the Signal Corps.) The office of the Commanding Officer and the Adjutant should be equipped with electric bells, so that the sergeant-major, the clerks, orderlies, and others can be gotten without having to holler for them. A code of rings should be devised whereby each man has an individual call.



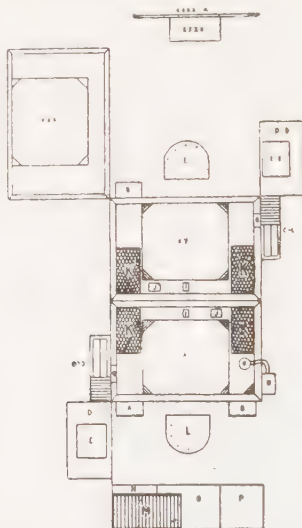
109. Case for reference books. A flat case like the one shown in the drawing adjoining, made by the quartermaster, and in which are kept the Army Regulations, drill regulations, the various manuals, etc., may be fastened to the wall, back of the Adjutant's desk. One is also placed back of the Commanding Officer's desk, and one back of the sergeant-major's desk.

(Border is made of 1 inch material and partitions $\frac{1}{4}$ inch material; receptacles $2\frac{3}{4}$ inches deep; the rods "A" and "B" extend out $\frac{1}{2}$ inch from face of case; the grooves are 2 inches deep and $1\frac{1}{2}$ inches wide.)

Fig. 6

110. Arrangement of desks, trays, etc. The following compact, handy, business-like arrangement of desks, trays, etc., with some slight modifications, and the methodical way of transacting business, were devised by Regimental Sergeant-Major George H. Middagh, 5th U. S. Cavalry and used by him in his work.

The office was handled in every detail by three men, and each attended all the drills that his position demanded, all of which shows what can be accomplished by *system and the use of labor-saving devices.*



- X—Regimental Sergeant-Major's desk.
- XX—Squadron Sergeant-Major's desk.
- XXX—Clerk: (delivery, Summary Court and copying).
- XXXX—1st Sergeant's table (for morning reports).
- XXXX-a—Bulletin Board.
- A—Drawer (hold-over).
- B—Drawer (pens, ink, rubber stamps, etc.)
- C—Order file rack (Regtl., W. D., Dept. etc.)
- CC—Same for post.
- D—Typewriter table (Regimental Headquarters).
- DD—Typewriter table (Post Headquarters).
- E—Typewriter (Regimental Headquarters).
- EE—Typewriter (Post Headquarters).
- G—Telephone receiver and transmitter.
- H—Telephone.
- I—Calendar.
- J—Adjutant's "Tickler."
- K, K', K'', K'''—Wire baskets.
- L—Revolving chairs.
- M—Delivery tray
- N—4 tray cabinet (muster rolls, officers' records, etc.)
- O—4 tray cabinet (Regimental returns).
- P—4 tray cabinet (Doc., A. R. and Manuals).
- Q—Index of all current orders and circulars.

111. Officers reporting at post headquarters daily. Considerable business often transacted in writing can be disposed of conveniently and

expeditiously by personal interview, and orders, communications, etc., can be delivered without messenger service, by having all the officers of the command report daily, except Sundays, at post headquarters at officer's call, sounded shortly before 1st sergeant's call, which, for the convenience of those concerned, might be sounded immediately after morning drill. Instructions concerning muster, inspections, payment, etc., and information of general interest now conveyed by written communication, may be given the assembled officers by the commanding officer or the adjutant, the officer of the day detail verbally announced, holidays made known, etc. A pigeon-hole box, with a compartment labelled with each officer's name, is kept in some convenient room in the administration building, and orders, communications, etc., intended for officers are placed in their respective compartments. Should the commanding officer or the adjutant desire to see an officer about some particular matter, place in the officer's compartment a card or slip, bearing, for instance, the statement—

"Capt. Smith:

The C. O. (or Adjt.) desires to see you about ———."

112. Paperwork in Adjutant's office. The paperwork of an Adjutant's office is so extensive that it is impracticable to cover it in a book of this nature. However, the subject is covered thoroughly in "ARMY PAPERWORK," a copy of which can be gotten from Geo. Banta Publishing Co., Menasha, Wisconsin, or from any of the distributors named in the front part of this manual. Price, \$2 postpaid.

CHAPTER IX

QUARTERMASTER SERGEANTS, QUARTERMASTER CORPS

113. General duties. The general duties of Quartermaster Sergeants consist in acting as clerks and assistants to the Quartermaster.

114. Office organization. The office of Quartermaster at a post or station garrisoned by a regiment consists of four divisions, subdivided into branches, as follows:

1. Administrative Division. { (a) Mail and Record Branch.
(b) Personnel and Miscellaneous Branch.
2. Finance and Accounting Division.
3. Supplies Division. { (a) Subsistence Supplies Branch.
(b) Clothing and Equipage Branch.
(c) Miscellaneous Branch.
4. Transportation and Construction and Repair Division. { (a) Transportation Branch.
(b) Construction and Repair Branch.

To posts garrisoned by a greater or less number of troops than a regiment, the above organization is applicable with such modifications as may be found necessary.

115. Familiarity with work of all divisions. Quartermaster Sergeants will not be kept on one class of work continually, but will be made to alternate frequently from one division of the office to another in order that they may become proficient in the various duties of the position and be afforded an opportunity to keep in touch with changing methods and conditions. (Par. 86, Manual for Quartermaster Corps.)

The Manual for Quartermaster Corps (1916) is very complete, covering, as it does, in an extensive and thorough way the requirements of the various divisions of a Quartermaster's office. It is, therefore, suggested that you look up in the index the subjects pertaining to the particular division in which you may be working, and familiarize yourself thoroughly with such objects. For example, if assigned to the division, "Transportation and Construction and Repair," under "Transportation," and under "Construction and Repair," in the index of the Manual for Quartermaster Corps (1916) you will find those subjects covered in detail.

116. Miscellaneous duties. Whether or not the following requirements and suggestions are to be observed by a Quartermaster Sergeant at a given time will depend, of course, on whether they apply to the position he happens to be filling at that particular time:

Things That QUARTERMASTER SERGEANTS Should Take Special Care To Do.¹

Pay close attention to all Q. M. C. orders, circulars, and decisions and to all War Department orders and circulars affecting the Quartermaster's Corps.

Look after details as much as possible, correct all errors and irregularities that you observe, and prevent unauthorized issues.

Examine critically and check every paper before it goes to the Quartermaster for signature—see that all the notes on the form and that all orders, circulars, and regulations on the subject have been complied with.

Be courteous, obliging, and tactful with everybody,—it will cost you nothing and will gain you the confidence, esteem and goodwill of all with whom you come in contact. In this connection let the following "Motto for Supply Troops," by Capt. E. E. Booth, Supply Officer, 1st U. S. Cavalry, be your creed:

First. Remember that the Supply Department is created and maintained for the purpose of supplying and serving the Regiment. Keep this constantly in mind and conduct yourselves accordingly.

Second. Our aim should be to grant every legitimate request for supplies, services, or materials made by officers and men of the Regiment. Don't haggle over technicalities or compliance with forms. Remember that the troops have to devote their time, thoughts, and energies to training for field service. If the officers and men of the line do all the legitimate work expected of them, they have not the time to inform themselves sufficiently in the multitude of details, forms, etc., to enable them to prepare correctly all the papers connected with the question of obtaining and accounting for supplies. Papers going to higher authority must comply with all requirements. But this is not necessary when they stop in the Supply Office. All that this office requires is to be told what is wanted.

Third. Study all the time for methods to supply the troops with everything they require without any effort or thought on their part or without calling on them for assistance.

Fourth. Heads of all departments are authorized to grant requests. The Supply Officer only can decline them. When impossible

¹ The collated experiences of eight Quartermaster-Sergeants.

for the head of a department to grant a request, refer the officer or man making it to the Supply Officer. Remember that the granting of a request will be more satisfactory to the applicant than a reason or an excuse for not granting it, however good the latter may be.

Fifth. The Supply Department will have fulfilled its function only when it supplies promptly everything needed by the troops, without any thought or labor on their part.

Things QUARTERMASTER SERGEANTS Should Take Special Care NOT To Do.¹

Never get behind in your paper-work, but always keep your work up to date—get all your estimates, returns, reports, and requisitions in on or before the time they are due.

Never issue property without proper authority—that is, without the authority of the Quartermaster.

Do not lose sight of the fact that the Quartermaster's Corps exists for the convenience of the troops and not the troops for the convenience of the Quartermaster's Corps, and also remember that the property does not belong to you, but that it belongs to the Government and that it is intended for the use of the troops.

Do not depend on others to do work that you are justly expected to do.

Do not entrust too much to those under you—while being considerate with them be firm also, and exercise a close supervision over their work—see yourself that they do their work promptly, properly, and efficiently.

Whatever you do, do not “play favorites,” and never issue property as a matter of favor—supplies are furnished for the good of the service and not to satisfy personal whims or to enable Quartermaster-Sergeants to gain friends.

In exchanging unserviceable for serviceable property, do not discriminate between different organizations:—treat them all alike and thus save yourself trouble and unpopularity.

Do not talk outside about the business of your office.

How Can QUARTERMASTER SERGEANTS Make Themselves Most Useful to the Quartermaster?

By making the interests of the Quartermaster their interests; and by safeguarding them as they would their own; by knowing what to do and by doing it without being told; by being loyal to the Quartermaster; by carrying out what has been said under the headings, “Things QUAR-

¹ The collated experiences of eight Quartermaster-Sergeants.

TERMASTER-SERGEANTS Should Take Special Care To Do," and "Things QUARTERMASTER-SERGEANTS Should Take Special Care NOT To Do."

"Pointers" Regarding the Care, Preservation and Responsibility of Property.

Too much attention can not be given to the proper care, preservation and accountability of property, and Quartermaster-Sergeants should be on their constant guard to see that it is given proper care and protection.

Always look after the keys of the storerooms personally and never entrust them to anyone except one of the regularly detailed storekeepers, and even then never turn a key over to more than one man—in case anything goes wrong it is much easier to fix the responsibility on one man than on two. The key to the clothing-room should always be in the personal possession of one Quartermaster-Sergeant, with a duplicate in the Quartermaster's safe. In fact, it is a good plan to keep in the Quartermaster's safe duplicates of keys to all storehouses.

The greatest possible care should be exercised in the selection of storekeepers, so that none but thoroughly honest and reliable men are so assigned and these men should be carefully instructed in their duties.

In each storeroom there should be kept a memorandum book, in which is entered every issue for temporary use, together with the name of the noncommissioned officer or other person to whom issued, and the date; and then, when the articles are returned, notation of the fact and the date should be made.

It is a good plan to charge the storekeeper with the duty of seeing that such tools as axes, pickaxes, scythes, etc., are kept sharpened and in good, serviceable condition.

A separate room or place where property awaiting condemnation can be stored is almost a necessity, and in this room should be kept a memorandum book in which is entered every article at the time it is put in the room. This book can then be used to make up Inventory and Inspection Reports and lists for surveying officers—it will also be found useful when checking up your return.

Under no circumstances ever allow property to leave the storehouse without getting a memorandum receipt or some other kind of receipt for it. Remember, it is generally easier to get a receipt for property before it is delivered than afterwards.

Of course, under orders from the Commanding Officer or the Quartermaster, property would be issued without getting a receipt for

it, but a Quartermaster-Sergeant should make it his first duty to obtain the receipt as soon as possible. In a case like this, however, a receipt of some kind should be obtained from the enlisted man or other person to whom the property is given. If this be not practicable, the Quartermaster-Sergeant should make a list of the property, noting the name of the officer responsible, the purpose for which it is to be used, the authority under which issued (if written, attach it to list), the name to whom the property was personally turned over and the date.

A memorandum receipt should be complete in all particulars—it should always show condition of property.

A memorandum receipt for the company tool chest should enumerate all the articles, although they do not appear separately on the return.

Although it is customary to carry articles of the same general nature on the return as "assorted," this designation should never appear on a memorandum receipt, but each item should be briefly described. Thus, for example, "1 Wrench, Stilson, 24 inch, 1 Wrench, Stilson, 8 inch," etc. In addition to this precaution, all tools should be branded "U. S." as soon as they are received.

A memorandum receipt should be taken for the keys to every set of quarters and other public buildings.

Receipts for public animals should show such notations as will facilitate reference to the descriptive cards.

When an article is issued of which more than one pattern is handled, the kind issued should be carefully stated, and if issued with keys, as in the case of padlocks, etc., the numbers of keys should be stated.

Keep your storehouses clean and in order—keep everything systematically arranged, having a place for each thing and keeping each thing in its place.

If practicable, unserviceable property should be kept in a separate room. In any event, it should be kept separate from serviceable property.

Count and verify property personally as often as possible.

Examine carefully all property received, and see whether it agrees with the invoice in quantity, quality, and conditions, and see that it is immediately taken up on the return and that receipts are signed and forwarded without delay.

The best way to be thoroughly familiar with the amount and the condition of the property on hand, is to see it frequently. Frequent

inspections of the storerooms should, therefore, be made, and inventories should be made as often as practicable.

The accumulation of surplus property should be avoided. Aside from the violation of orders that this involves, it also tends to encourage carelessness in the care and accountability of property.

Do not be wasteful with expendable property just because it is expendable.

Do not store canvas while damp, nor weigh coal while wet.

When tentage is turned in, have it spread out in the sun and dried, replacing worn out ropes and otherwise putting the tentage in proper condition for re-issue.

Supplies longest on hand should be issued first—keep all new property in the background until the old is exhausted.

See that all movable public property is, if practicable, conspicuously branded “Q. M. C.” before put into use, and also that tables, benches, screens, etc., made at the post are branded likewise and immediately taken up on the return and accounted for as manufactured at post.

Whenever property is delivered by team or otherwise, have the driver or other person who delivers, get a receipt from the person to whom the property is delivered.

Do not exchange property just because it is worn—only *unserviceable* articles should be exchanged.

Store ink where it will not freeze, and oil in a dry place, where the cans will not rust—the rust will eat through the cans and cause them to leak.

Examine every box in the storeroom that is supposed to be empty and watch it until it is removed—dishonest subordinates have been known to steal clothing and other property by hiding it in empty boxes and then getting it therefrom when the boxes were removed from the storehouse.

Examine carefully all sides of original packages and if there is any indication that the package has been tampered with, notify the Quartermaster at once.

Store all hardware in a dry place, and do not expose refrigerators to the sun—it will soon draw the joints apart.

Veterinary and drawing instruments will not rust if coated with cocoanut butter.

Veterinary and drawing instruments and other valuable instruments and tools should be kept under lock and key.

Never store any property unless it is dry and clean. When stoves and pipe joints are turned in, have them thoroughly cleaned, blackened, and if necessary, repaired, at once, and then stored in a dry place.

Require that cooking utensils, axes, hatchets, picks, shovels, etc., be well cleaned before being turned in. Give them a coating of oil before storing.

Do not accept bed sacks, sheets, pillow cases, barrack bags and shelter-tent halves, unless they are clean and in condition for re-issue—there is no allowance for laundry and it is very difficult to re-issue these articles, if dirty.

When you receive oil, examine every box—an empty box looks just like a full one.

Clothing should be stored in a dry place, with lots of moth balls.

Harness that has been used should be thoroughly cleaned before stored, when it should be hung on pegs.

If practicable, all small articles should be stored in a separate storeroom, which should be given special care and attention.

Do not allow mechanics access to tools, except in your presence. Tools are the most difficult of all property to keep track of.

When a box or package is opened and a part removed, tag it so as to show the remaining contents.

Miscellaneous "Pointers" and Suggestions.

Requests for minor repairs to quarters, etc., should be entered in a book kept for the purpose, and same attended to in its turn.

Numerous questions and frequent interruptions will be avoided by posting in a conspicuous place in the issue-room, a large price list of the clothing and such articles of equipage as are usually purchased.

In drawing checks, and in the absence of a check protector, a good way to guard against alterations of amounts, is, to write the amount in *red* figures, in the place for the Quartermaster's signature. The Quartermaster signs his name right over the red figures.

When anything which is exhausted, or which has never been on hand, is asked for, it is a good plan to make a note of it in a book kept for the purpose. Such a book is very useful for reference in making up estimates.

If your clothing-room, be small, pack all surplus clothing in boxes with plenty of camphor balls; mark the contents of the boxes, by sizes, on slips of paper and paste the slips over the edge of the cover

and the box, so that the opening of the box would break the paper; give each box a number, and enter the numbers in a book kept for the purpose, showing the contents of each box, with sizes.

If you hear of an officer at the post, who is ordered away, and who is holding property on memorandum receipt, advise the Quartermaster so that settlement may be made before he leaves—it sometimes entails considerable correspondence and trouble to make a settlement after the officer leaves. Should such an officer, or an officer going on leave, owe the Quartermaster's Corps for supplies, a bill should be sent him a few days before he leaves.

Things that QUARTERMASTER SERGEANTS on Duty in the Subsistence Supplies Branch Should Take Special Care To Do.

Special attention must be paid to the care and preservation of perishable stores.

Make a special study of the probable needs of the command, so as to assist the Quartermaster in submitting estimates and requisitions for such articles and in such quantities that the command will be properly supplied without overstocking the commissary. Nothing is more unsatisfactory than trying to dispose of old stores.

By care and attention be absolutely correct in your figures when rendering returns, estimates, and requisitions, and especially should you be absolutely correct in your figures when rendering officers' bills. Mistakes in the former oftentimes cause considerable correspondence with the War Department, while errors in the latter may arouse suspicion as to your honesty.

Keep your storehouse clean, neat, orderly, and well ventilated, keeping each kind of stores together.

Onions and potatoes should be carefully watched, and sorted as often as may be necessary.

Your office should be a model of system and neatness. Have proper and separate places for each kind of papers, such as letters, invoices, receipts, etc.

Brief all papers as soon as received.

After receiving stores enumerated on an invoice, enter them without delay on your Abstract, and after making an issue of stores, enter them at once in your Abstract of Issues. In other words, keep your Abstracts up to date, so that at the end of the month they will need only to be added up.

¹ The collated experiences of nine Quartermaster-Sergeants.

All stores received should be carefully checked from the invoice as to contents of each box or case. See that each box or case is intact—if it is not, it should be immediately opened and the contents verified. Discrepancies should be reported at once to the Quartermaster.

Arrange stores upon their receipt so that those longest on hand will be the first issued or sold.

Before closing each day make a tour of the building to see that all doors and windows are properly secured.

Keep all your work up to date, and always render all reports returns, estimates, and requisitions on time.

Always have your business well in hand, so that you can tell at any time just exactly what you have on hand, what is needed, etc. This can be accomplished by keeping a daily record of all issues, sales, savings, shipments, stores received, stores shipped, fresh beef received by hind and fore quarters, fresh vegetables. Keep a check of all money transactions to conform with Form No. 3, Inspector General's Dept., so that when an inspector comes, you will merely have to close it up in order to have a ready check for him.

Things that QUARTERMASTER SERGEANTS on Duty in the Subsistence Supplies Branch should Take Special Care NOT to Do.¹

Never let your work accumulate—clear your desk daily—keep your work up to date. Indeed, keep ahead of your work, if possible. Between the 10th of the month (the date of mailing your returns) and the 25th (the date of taking inventory), you will often find leisure time which you can profitably devote to filling in bill-heads and addressing envelopes to persons making purchases on pass books during the month—you may rule out books that are used for recording savings of companies, bakery accounts, etc. As soon as the monthly returns have been mailed, the preparation of all returns and vouchers for next month should be started. All these papers can be so far completed that at the end of the month only quantities and amounts will have to be entered. All of these things count for a great deal on the end of the month, when you will have more work than usual.

Do not have your stores scattered about the storehouse, but keep each kind together—this will facilitate the taking of inventory and will also serve to avoid making mistakes in counting.

¹ The collated experiences of nine Quartermaster Sergeants.

Do not open any more boxes than is absolutely necessary shortly before taking inventory as this will make the taking of the inventory more difficult.

Do not trust any of your subordinates any more than you can help and depend upon no one but yourself to do your work—see to it yourself that it is done and that it is done well for you alone are responsible for the manner in which your work is performed.

Do not bring any intoxicants in the commissary and do not permit any of your subordinates to do so.

Do not depend on your memory for everything—the best memories sometimes fail. Use scratch pads and other forms of memoranda freely.

When a sale is made, make a record of it at once, either on your blotter or on a cash sales slip. In fact, never allow any article to leave the place until you have made a record of it.

Should instructions be received that for any reason can not be carried out at the time, make a note of same somewhere where you can not fail to notice it at the proper time.

Do not delegate to others duties that you should yourself perform in person.

Never allow a subordinate to perform his work in a careless manner.

Never be late beginning a day's work—it is better to be a little ahead of time.

Never allow stores that are deteriorating to remain near good ones—deteriorating stores should be at once separated from the rest of the stores, and, if possible, even placed in a separate building. Never permit onions or decayed vegetables of any kind to be stored near flour, coffee or any other article that is liable to absorb the smell.

Whatever you do, don't show any favoritism in issuing stores—treat everyone alike.

Never assume any authority which properly belongs to the Quartermaster.

Never get into argument with company mess sergeants, or with the families of officers,—in a firm but courteous manner always report such cases to the Quartermaster for him to argue and settle.

Do not take up the time of the Quartermaster by consulting him about trivial matters.

Pointers Regarding the Care of Subsistence Supplies and Property.

The storehouse should be kept well ventilated and swept daily, as its cleanliness is a matter of great importance.

The entire storehouse should be inspected daily, and all stores should be moved and restacked once every quarter, generally when the quarterly supply of new stores arrives.

Knives, auger bits, saws, hammers, hatchets and other articles of hardware should be inspected occasionally and rubbed with an oiled rag to prevent rusting.

Keep a number of good cats in the storeroom—they are much better than poison and traps for making away with mice. Arrange the stores, especially those in sacks, so that the cats can pass everywhere.

Not only should the stores be so arranged that there shall be ventilation and light between them, but there should also be enough room to sweep.

Salmon, lobsters, olives, olive oil, cheese, etc., should be kept away from stoves and other heating apparatus. However, while these articles should be kept in a cool place, they should not be allowed to freeze.

As far as practicable stores should be arranged in the same order in which they appear on the return. This facilitates the taking of the monthly inventory, which should be taken on the same date every month and everyone authorized to deal with the commissary should be notified two or three days ahead of the time that the commissary will be closed on that date.

New potatoes and dried fruit in summer months often cause a great deal of trouble. When new potatoes are delivered, not more than 10 days' supply should be asked for and then there should be no "piling up"—if so, the potatoes are likely to get overheated and rot quickly. A good deal of dried fruit is lost in late summer months by becoming "wormy." The fruit should be carefully examined when received and two or three times weekly when in the storeroom. At the first sign of a worm, the fruit should be put at once in a cold refrigerator, which will kill the worms and keep the fruit in good condition. Breakfast bacon and hams should be removed from crates as soon as received and hung up on rafters.

Never ask for more sales articles of a perishable nature than are actually required—it is better to run short for a few days than to have a lot of spoiled stores on hand.

Keep dunnage at least 12 inches high under all stores. By this method floors can be kept clean and dry, while any leakage becomes noticeable at once and can be located without loss of time. Never pile stores against a wall.

As stores longest on hand are first for issue or sale it is well to mark each lot with the date of receipt. This is readily done with a date stamp, for cases or boxes. Choose some particular spot on each, so that it can be easily found—for example, the space between the cusps of the crescent stenciled on them. For sacks, use a marking brush.

In storing flour, or other stores which come in sacks, pile the sacks one above the other as high as necessary or convenient, making each pile by itself. Leave a space between piles about four inches. This will prevent cutting by mice, as they can have no foothold and no place to build nests. The sacks must be laid perfectly flat and piled carefully or they will topple over, but the absence of loss and trouble more than repays one for the extra labor.

In storing vegetables for winter a root-cellar is the best place, but if not available a dry basement will answer very well. The vegetables should be sacked—120 to 150 pounds each—and placed on dunnage. Three tiers is a good arrangement. Mark weights on ends of sacks—it will save trouble and handling when making inventory. In cold weather watch the thermometer (there should be one in every place used for storage) and if there is danger of freezing, fill all water buckets available and set around among the tiers. The water will freeze, perhaps, but it will protect the vegetables against all but the most severe cold. Bottled and canned goods can be treated the same way.

If serving in the tropics, be especially careful to see that all stores are protected from dampness and that there is a good current of air in the storerooms. Vinegar barrels should be frequently examined and the hoops kept tight to avoid leakage.

If there are no hydrants, or sufficient fire apparatus at the post, he should be careful to see that fire buckets and barrels filled with water are kept in the storerooms, or in their immediate vicinity, for use in case of fire.

117. Quartermaster paperwork. The paperwork of the Quartermaster Corps is so extensive and complex that no effort has been made to cover it in this Manual. However, the subject is well covered in "ARMY PAPERWORK," by the author, which can be obtained from the publishers, Geo. Banta Publishing Co., Menasha, Wis., or any of the distributors named at the beginning of this Manual. Price \$2, postpaid.

CHAPTER X

THE ORDNANCE SERGEANT

118. General duties.¹ Under the supervision of the ordnance officer, the Ordnance Sergeant has charge of the care and preservation of all ordnance stores and equipment for the general use of the post (except the modern armament and equipment of Coast Artillery posts) and of such surplus ordnance and ordnance stores as are not in the hands of troops.

He is also charged with the preparation of the Ordnance returns and requisitions, and such other paperwork as may be connected with the office of ordnance officer.

Things The ORDNANCE SERGEANT Should Take Special Care To Do.¹

He should be prompt and attentive in the performance of his duties, and should always keep his work up to date.

He should see that the proper amount of ammunition, spare parts and target material is at all times on hand.

He must carefully verify all stores received and shipped.

See that receipts are received for all articles issued, both regular issues and on memorandum receipt.

Things The ORDNANCE SERGEANT Should Take Special Care NOT To Do.¹

Not to issue Ordnance property without proper authority.

Not to permit smoking in the vicinity of the magazine by working parties, or any other person, when the magazine door is open.

Not to attempt to remove ammunition or explosives from the magazine when there is a fire in the vicinity of the magazine, but to close all doors, windows and ventilators, covering them with damp cloths.

Not to allow explosives to be dragged from a car and thrown into wagons, but in all cases they are to be handled with the greatest care.

There are a number of other things he should not do—they are mostly covered by regulations, such as not attempting to put a primer in a cartridge case when it is loaded with powder.

¹ The collated experiences of four Ordnance Sergeants.

"Pointers" Regarding The Care and Preservation of Property.

The Ordnance Sergeant should give special attention to the care and preservation of such ordnance and ordnance stores as are in his immediate charge. (For the proper way of preserving same, see par. 49.)

An inventory of property on hand should be taken at least once every six months.

All powders and ammunition should be kept separate from other stores—in the magazine, if one is provided, which should be opened and ventilated at least once a week.

In issuing ammunition, or its components, that longest on hand should be issued first.

Miscellaneous "Pointers" and Suggestions.

When transferring property to someone away from the post, make an extra copy of the invoice and keep it on file until the return of the receipts, properly signed.

See that requisitions are made on time and that the quantities requested are sufficient to supply the command properly.

Stencils cut out of paper—one with the name of each Arsenal you deal with—are a great convenience. Nearly all, if not all, the arsenals have machines for cutting such stencils, and it is more than likely that any one of them would gladly furnish stencils upon application.

119. BLANK FORMS TO BE KEPT ON HAND

Furnished by the Ordnance Department.

Form

No.

18. Inside and Outside sheets to Ordnance Return;
19. Certificate of Expenditure;
86. Statement of Charges;
94. Report of Ordnance Charges;
146. Transfer of Ordnance Property;
152. Transfer of Ordnance Property under 1535 Army Regulations;
1519. Personal Report, Ordnance, Sergeants;
386. Requisitions.

Furnished by the Inspector General's Department.

Form

No.

- I. Outside sheet, Inspection Report;
- 1a. Inside sheet, Inspection Report.

Furnished by The Adjutant General's Department.

Form

No.

- 196. Report of Survey;
 - 332. Abstract of Sales;
 - 448. Memorandum receipt;
 - 448b. Abstract Record of memorandum receipt;
 - 599. Semiannual return, front cover.
 - 599a. Semiannual return, inside sheets.
 - 599b. Semiannual return, back cover.
 - 600. Invoice and receipt.
 - 601. Covers replacement of expendable articles and others pertaining to equipment "C"; also ammunition expended in practice firing, etc.
 - 602. Statement of charges against enlisted men.
 - 603. Due certificate.
 - 604. Requisition for expendable articles for maintenance of equipments.
- Form No. 322, W. D., Abstract of funds received from authorized sales.

**120. ORDNANCE DEPARTMENT BOOKS AND
PAMPHLETS TO BE KEPT IN OFFICE**

Form

No.

- 1957. Description of Telescopic Musket Sights;
- 1926. Automatic Machine Rifles;
- 1926a. Description of automatic machine rifles and accessories;
- 1866. Automatic pistol;
- 1658. Blank ammunition;
- 1890. Price list of machine rifles;
- 1719. Horse equipments;
- 1715. Cavalry equipments;
- 1718. Description of Infantry equipment;
- 1717. Instruction for assembling Infantry equipments;
- 1992. Small arms targets, etc.;
- 1990. Decapping and Cleaning tools;
- 1925. Gallery practice rifles;
- 1923. U. S. rifles;
- 1797. Range finders;
- 1741. Rifle and Hand Grenades;
- 1720. Regulations for Transportation of Explosives;

- 1768. 3-inch Saluting gun;
- 1879. Price list of Ordnance and Ordnance Stores;
Ordnance Property Regulations;
- 1970. Supply and Allowance Tables;
- 1965. Instruction for the Care and Repair of Small arms, etc.

Note. A Unit Equipment Accountability Manual for each branch of the service at the post, furnished by The Adjutant General of the Army, should be kept on hand.

See G. O. 26, 1917, regarding the disposition of unserviceable property.

CHAPTER XI

USE, DESCRIPTION AND MANAGEMENT OF THE RIFLE

121. Know your rifle. The rifle is the soldier's fighting weapon, given to him by the Government with which to defend his country and himself.

It is the soldier's best friend.

He should know it and understand it. He should learn its peculiarities, if it has any,—that is, if it shoots high or low; to the left or to the right. And just as one makes allowance for the peculiarities of a friend, so should the soldier, in firing, make allowance for the peculiarities of his rifle,—*his best friend*.

First step in getting acquainted with your rifle. The first step in getting acquainted with your rifle is to learn its correct name, its weight, the size of the bore, its range (that is, how far it will shoot), the kind of ammunition it shoots, its penetration (that is, how far the bullet will go into different materials at different ranges), the names of its various parts, what the rifle will do, etc.

Name. It is officially known as the U. S. MAGAZINE RIFLE, MODEL OF 1903, CALIBER .30.

It was made originally at the Springfield Armory, and is, therefore, also known as the U. S. SPRINGFIELD RIFLE.

It is now made at Springfield Armory, Mass., and Rock Island Arsenal, Ill.

It is the best rifle in the world.

Weight. It weighs, without bayonet, 8.69 pounds (*about eight and three quarters pounds*). The bayonet weighs 1 pound.

Caliber. The caliber is .30,—that is, the diameter (the width) of the *bore*, measured between the lands, is 30 one-hundredths of an inch.

The cartridge. The cartridge consists of:

1. *A case (brass shell)* containing from 47 to 50 grains (a little more than one-tenth of an ounce) of smokeless powder.
2. *A primer*,—that is a *cap* containing percussion powder, which, when struck by the firing pin explodes and ignites the powder in the shell.

3. *A steel jacketed, nose-pointed bullet.* The core of the bullet is the lead and tin composition. The bullet weighs 150 grains (about one-third of an ounce).



Fig. 1

The cartridge complete weighs 392 grains (little less than an ounce.)

(NOTE. A company officer should take a cartridge apart and explain the functions of the different parts.)

Clip and bandoleer. The cartridges are packed 5 in a clip; 12 clips are packed in a bandoleer made of khaki cloth having six (6) pockets, each holding two (2) clips. A bandoleer with cartridge weighs about four (4) pounds.

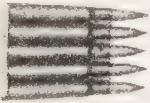


Fig. 2
Clip of cartridges

The bore. The bore of the rifle is a perfect cylinder, with four spiral or corkscrew grooves cut in it, the grooves making one complete turn in every ten (10) inches.

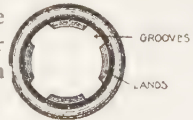


Fig. 3

The lands. The raised portions left between the *grooves* are called *lands*.

Rifling. This cutting of grooves, called *rifling*, makes the gun a *rifle* instead of a *smooth bore*.

What the rifling does. The rifling grips the bullet as it passes through the bore and gives it a twist which causes it to spin to the right like a top, as it passes through the air. This spinning keeps the bullet from tumbling,—that is, from going end over end,—and consequently when it strikes, the point is always in front. This gives greater accuracy and range,—that is to say, the rifle shoots straighter and farther.

However, this twist to the right also produces the undesirable effect of causing the bullet to go to the right, which is overcome by cutting on a diagonal the inner



Fig. 3a

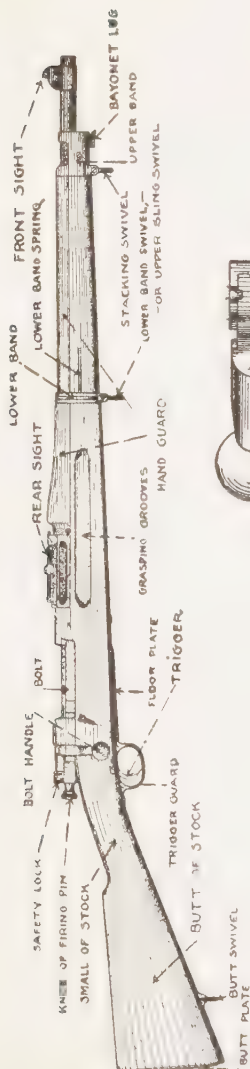


Fig. 1

sides of both branches of the leaf. (See C. Fig. 3a, and similar undercut on opposite branch.)

This movement of the bullet to the right is called the *drift*.

122. Names of the Parts

Figure 4 gives the names of the principal parts of the rifle.



Fig. 5

The bolt, Fig. 5, has the *handle*, A; the *locking lugs*, BB, which sustain the shock of the discharge, the one on top being slotted to allow the passage of the point of the ejector; the *safety lug*, C, which comes into play only in the event of the locking lugs yielding under powder pressure.

The firing pin, Fig. 6, consisting of the *firing pin rod*, A, and the *cocking piece*, B, which are made separately, the former being screwed into the latter and riveted in assembling; the length of the rod is so adjusted that when the front end of the cocking piece bears against the interior shoulder of the sleeve the striker point will project the proper distance beyond the face of the bolt. C is the *knob*.

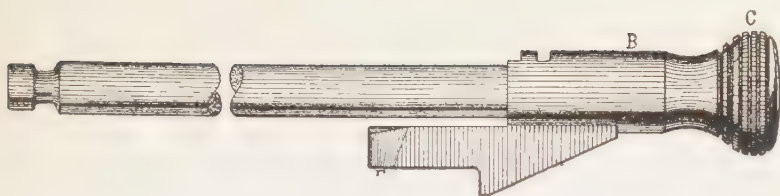


Fig. 6

The firing pin sleeve, Fig. 7, sectional view, fits over the front end of the firing pin and the rear end of the striker, covering the joint hole, and preventing accidental separation of the firing pin and striker; its rear end forms the front bearing for the mainspring.

Fig. 7



Fig. 8



The Striker, Fig. 8, has the *point*, A; the *body*, B; the *shoulder*, C; and the *joint hole*, D, by which it is secured to the firing pin. The annular grooves on the striker retain the lubricating oil and prevent the accumulation of rust thereon.

The Mainspring is shown in Fig. 9.



Fig. 9

The extractor, Fig. 10, inside view, Fig. 11, top view, and Fig. 12, front end view, has the *hook*, A, by which the cartridge case is



Fig. 10

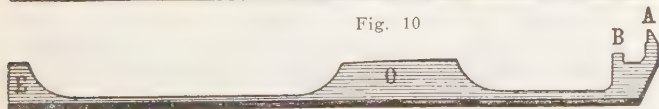


Fig. 11



Fig. 12

extracted from the chamber, the *tongue*, B, which rides in its groove at the front end of the bolt; the *lug*, CC, which is undercut to receive the ears on the lugs of the extractor collar; the *gas escape hole*, D; and the *back rest*, E, which is curved to fit the circle of the bolt.

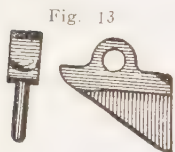


Fig. 13



Fig. 14

The *safety lock*, rear and side views, is shown in Fig. 15. The words, *Safe*, and *Ready*, impressed on the opposite sides of the *thumb-piece*, A, indicate that the firing mechanism is locked or ready for firing. When locked it is impossible for the piece to be fired, nor can the bolt be drawn back.

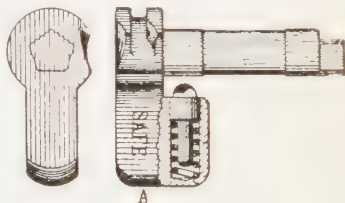


Fig. 15

The *floor plate*, Fig. 16, inside view, and Fig. 17, sectional view, has the *tenon*, A, which fits into a groove at the front end of the magazine and with the assistance of the floor plate catch retains the floor plate

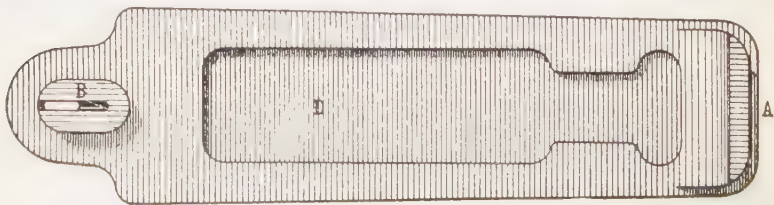


Fig. 16

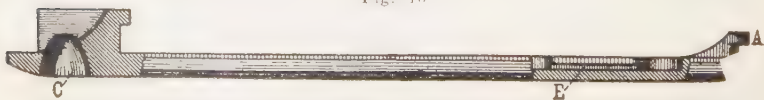


Fig. 17



Fig. 18

securely in its place at the bottom of the magazine; the *lug*, B, which is slotted to receive the floor plate catch and has a tenon on its front end which fits into a slot in the magazine; the *cavity*, C, through which the floor plate catch is released by means of the end of a bullet, the *magazine spring recess*, D, and the *magazine spring seat*, E.

The magazine spring is shown in Fig. 18, the smaller end slides into the undercuts on the follower, and the larger end fits in the same way into the undercuts in the floor plate.

The follower, Fig. 19, top view, and Fig. 20, right side view, has the *rib*, A, which serves to locate the cartridges in the magazine and guides the last cartridge into the chamber;

Fig. 19



Fig. 20

the *front stop for the magazine spring*, B; the *rear stop for the magazine spring*, C, and the *lugs*, D, in which are the undercuts for the magazine spring.

Fig. 21

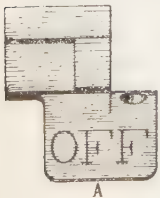


Fig. 22



The cut-off, Fig. 21, side view, and Fig. 22, rear view, has the *thumb piece*, A, the words *On* and *Off*, on opposite sides of the thumb piece indicate to the firer whether the magazine is *on* or *off*. When the cut-off thumb piece is turned down, indicating *off*, and the bolt is drawn

to the rear, the rear end of the slotted locking lug stops against the projecting front end of the cut-off body. The piece is then ready for single loading. When the cut-off thumb piece is turned up, indicating *on*, and the bolt is drawn to the rear, the rear end of the slotted locking lug stops against the shoulder at the rear end of the magazine fire groove. The piece is then ready for loading from the magazine. When the cut-off thumb piece is in the intermediate position, the *dismounting groove*, D, permits the bolt to be drawn entirely out of the receiver.

Figure 23 shows the *rear sight leaf* (raised), the *drift slide* (E), and the *wind gauge* (F, L). It is most important that the soldier be thoroughly familiar with the use of these parts, for otherwise it is impossible for him to sight correctly and use his rifle properly.

The leaf is graduated from 100 to 2850 yards. The lines that extend the whole way across the two branches of the leaf, mark 100-yard divisions; those that extend about half way across, mark 50-yard divisions, and the shorter lines mark 25-yard divisions.

The *even* numbers (4, 6, 8, etc.) on the *left* branch of the leaf, indicate 400, 600, 800, etc., yards.

The *odd* numbered hundreds of yards (300, 500, 700, etc.) are on the *right* branch of the leaf.

The numbers rest on top of the lines to which they refer.

So, if you want to fire at a target 800 yards away, set the rear sight at 8; 1,000 yards, at 10; 1,200 yards at 12, etc.

With the fly leaf up, ranges from 100 to 2350 yards can be obtained through the *peep hole*, K; from 100 to 2450 through the lower *peep notch*, J; and from 1400 to 2750 yards through the upper *peep notch*, G.

There is a horizontal line on the drift slide, across the *peep hole*, K. If the *peep hole* sight is used the sight is set by this horizontal line, which is set opposite the proper graduation (line across branch of leaf.)

If the *peep notch*, J, is used the sight is set by the short horizontal line,—that is, on a line with the top of the notch.

If the *peep notch*, G, is used, the sight is set by the top of the *slide*, C, which is set on the proper graduation.

Care must be taken not to use one of the *peep notches* when the sight has been set for the *peep hole*, or not to do the reverse, without first changing the sight.

The *sighting notch*, A, used when the range is 2850 yards, is hardly ever used, because the rifle is very, very seldom, if ever, fired at that range.

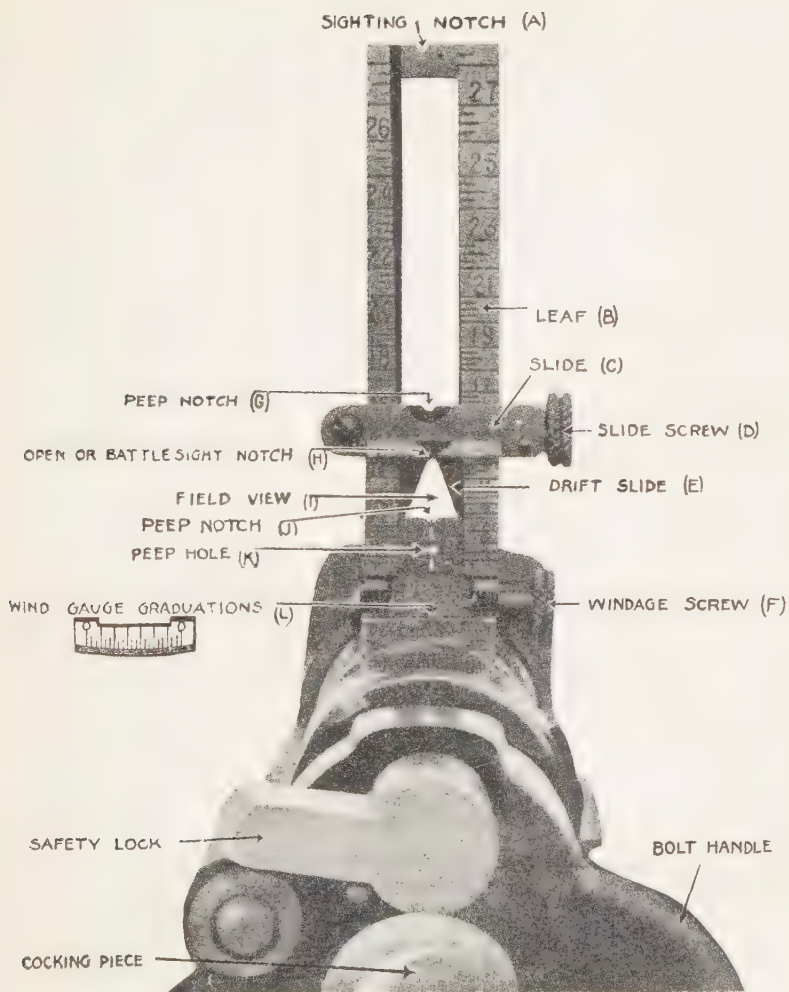


Fig. 23

With the leaf *down*, the *battle sight notch*, H, corresponds to a sight setting of 530 yards when the leaf is raised.

The *drift slide*, E, is fastened to the *slide screw*, D, and as the slide is moved up or down on the leaf, the drift slide moves with it, and at the same time has a lateral movement to the left as it is raised and travels along the undercut between the branches of the leaf, thus automatically correcting for "drift," (the deviation of the bullet to the right due to its twist) by throwing to the left the trajectory of the bullet. This movement corrects for all drift up to 600 yards, but for only part of the drift beyond that range.

By means of the *windage screw*, F, the sight is moved to the right or left, thus making allowance for windage. Each point of *wind gauge graduation* gives a deviation of four inches for each 100 yards.

The *front sight cover*, Fig. 24a, right side view, and Fig. 24b, front view, is made of sheet steel.

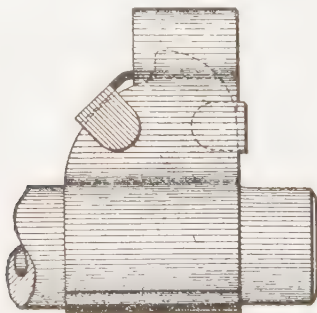


Fig. 24a

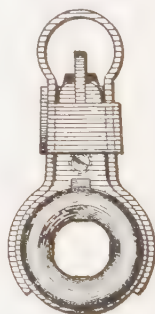


Fig. 24b

The *butt plate* is represented in Fig. 25. The parts are *toe*, A; *tang*, B; *cap hole*, C.

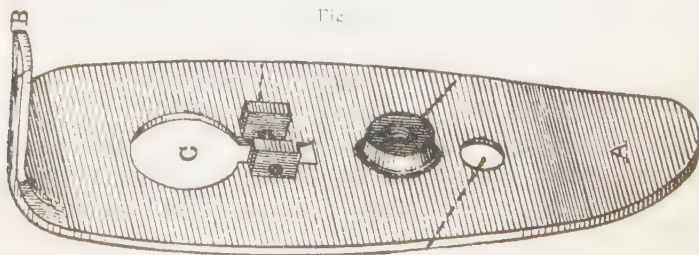


Fig.

123. The bayonet, Model of 1905, is shown in Fig. 26. The principal parts are the *blade*, A; the *handle*, B; and the *guard*, D.

124. What the Rifle Will Do

Use of rifle as single loader and as magazine rifle. The rifle can be used as a single loader, or as a magazine rifle. When used as a single loader, the cartridges are put into the chamber by hand, one at a time. When used as a magazine rifle, a clip of five cartridges is inserted into the magazine, and the rifle is loaded by working the bolt backward and forward.

Rapidity of fire. Men are trained to fire at the rate of about three shots per minute at effective ranges (600 to 1200 yards) and five or six at close ranges (0 to 600 yards), devoting the minimum of time to loading and the maximum to deliberate aiming. (Par. 147, Infantry Drill Regulations.)

As a single loader, the rifle can be fired from the hip without aim, 27 times in 1 minute, and by using magazine fire, 35 times.

By using the rifle as a single loader, 23 aimed shots have been fired in 1 minute, and, with magazine fire, 25.

Range. Although the rear sight leaf is graduated only to 2850 yards, the maximum range of the rifle (the greatest distance it will shoot) is 5,465 yards (3.1 miles), the time of flight being 31.36 seconds, and the elevation of the piece 45 degrees.

Muzzle velocity. When the bullet leaves the muzzle of the rifle it is going 2700 feet a second, or roughly, $\frac{1}{2}$ mile a second, or 30 miles a minute.

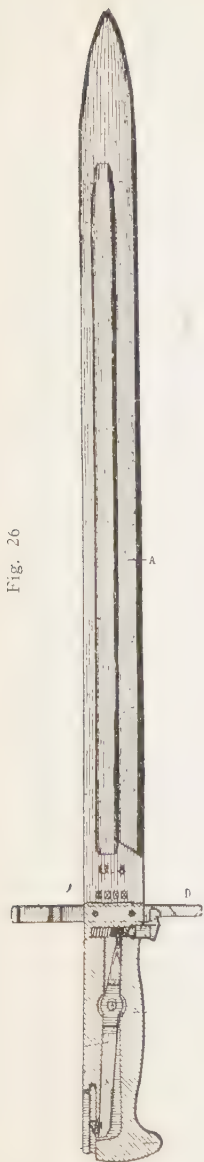


Fig. 26



Fig. 26a
Piece held at
elevation of 45
degrees

Penetration. The following table shows the penetration of the rifle:

MATERIAL	PENETRATION		
	100 yds.	500 yds.	1000 yds.
	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>
White-pine butts, made of 1-inch boards placed one inch apart	46.7	24.3	12.8
Moist sand		13.4	12.5
Dry sand		9.2	7.5
Low steel plate, .3843 inches thick	Through		
High steel plate, .1962 inches thick	Through		
Seasoned oak, across the grain		33.6	
Brick wall		5.0	

Life of the rifle. The life of the rifle, with reasonable care, with the present powder, is about 4000 rounds. It is estimated that a rifle fires about 400 rounds in one target season, so that it should, therefore, be good for at least ten years. (Par. 1, Bulletin No. 24, War Department, 1913.)

The Assembled Parts and Their Operations

125. Most of the operating parts may be included under the **Bolt Mechanism** and **Magazine Mechanism**.

The **Bolt Mechanism** consists of the bolt, sleeve, sleeve lock, extractor, extractor collar, cocking piece, safety lock, firing pin, firing pin sleeve, striker, and mainspring. It is shown, assembled, in Fig. 27. The parts shown in the cut are *handle*, A; *sleeve*, B; *safety lock*, C; *cocking piece*, D; *safety lug*, E; *extractor*, F; *extractor collar*, G; *locking lugs*, H; *extractor tongue groove*, I; and *gas escape hole*, J.

The bolt moves backward and forward and rotates in the well of the receiver; it carries a cartridge, either from the magazine, or one placed by hand in front of it, into the chamber and supports its head when fired.

The sleeve unites the parts of the bolt mechanism, and its rotation with the bolt is prevented by the lugs on its sides coming in contact with the receiver.

The hook of the extractor engages in the groove of the cartridge case and retains the head of the latter in the counter-sink of the bolt until the case is ejected.

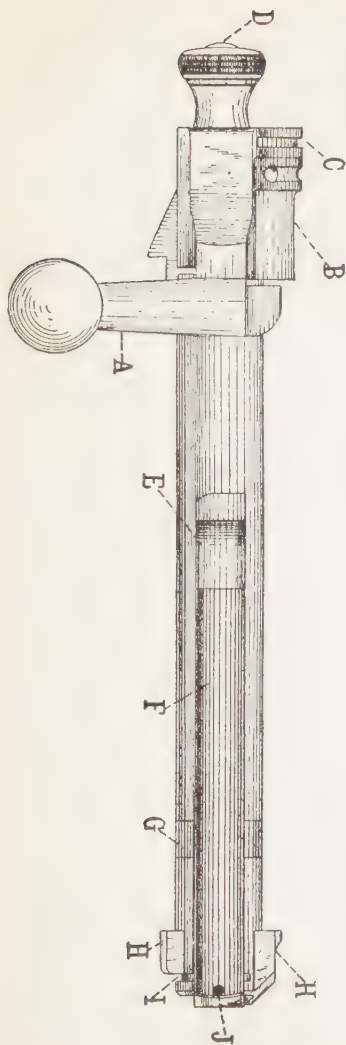


Fig. 27

The safety lock, when turned to the left, is inoperative; when turned to the right—which can only be done when the piece is cocked—the point of the spindle enters its notch in the bolt and locks the bolt; at the same time its cam forces the cocking piece slightly to the rear, out of contact with the sear, and locks the firing pin.

The bolt mechanism operates as follows: To open the bolt, raise the handle until it comes in contact with the left side of the receiver and pull directly to the rear until the top locking lug strikes the cut-off.

Raising the handle rotates the bolt and separates the locking lugs from their locking shoulders in the receiver, with which they have been brought into close contact by the powder pressure. This rotation causes the cocking cam of the bolt to force the firing pin to the rear, drawing the point of the striker into the bolt, rotation of the firing pin being prevented by the lug on the cocking piece projecting, through the slot in the sleeve, into its groove in the receiver. As the sleeve remains longitudinally stationary with reference to the bolt, this rearward motion of the firing pin, and consequently of the striker, will start the compression of the mainspring, since the rear end of the latter bears against the front end of the barrel of the sleeve and its front end against the rear end of the firing pin sleeve.

When the bolt handle strikes the receiver, the locking lugs

have been disengaged, the firing pin has been forced to the rear until the sear notch of the cocking piece has passed the sear nose, the cocking piece nose has entered the cock notch in the rear end of the bolt, the sleeve lock has engaged its notch in the bolt, and the mainspring has been almost entirely compressed.

During the rotation of the bolt a rear motion has been imparted to it by its extracting cam coming in contact with the extracting cam of the receiver, so that the cartridge case will be started from the chamber.

The bolt is then drawn directly to the rear, the parts being retained in position by the cocking piece nose remaining in the cock notch and locked by the sleeve lock engaging its notch in the bolt.

To close the bolt, push the handle forward until the extracting cam on the bolt bears against the extracting cam on the receiver, thereby unlocking the sleeve from the bolt, and turn the handle down. As the handle is turned down the cams of the locking lugs bear against the locking shoulders in the receiver, and the bolt is forced slightly forward into its closed position. As all movement of the firing pin is prevented by the sear nose engaging the sear notch of the cocking piece, this forward movement of the bolt completes the compression of the mainspring, seats the cartridge in the chamber, and, in single loading, forces the hook of the extractor into the groove of the cartridge case. In loading from the magazine the hook of the extractor, rounded at its lower edge, engages in the groove of the top cartridge as it rises from the magazine under the action of the follower and magazine spring.

The position then occupied by the parts is shown in Fig. 28 and Fig. 29, and the piece is ready to fire.

To pull the trigger, the finger piece must be drawn to the rear until contact with the receiver is transferred from its bearing to the heel, which gives a creep to the trigger, and then until the sear nose is withdrawn from in front of the cocking piece.

Just before the bolt is drawn fully to the rear, the top locking lug strikes the heel of the ejector, throwing its point suddenly to the right in the lug slot. As the bolt moves fully to the rear, the rear face of the cartridge case strikes against the ejector point and the case is ejected, slightly upward and to the right, from the receiver.

Double loading from the magazine is prevented by the extractor engaging the cartridge case as soon as it rises from the magazine and holding its head against the face of the bolt until ejected.

Fig. 28

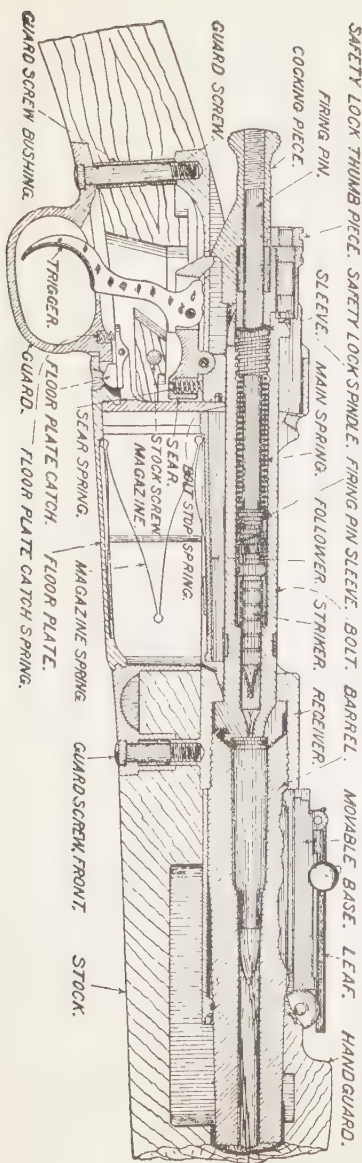
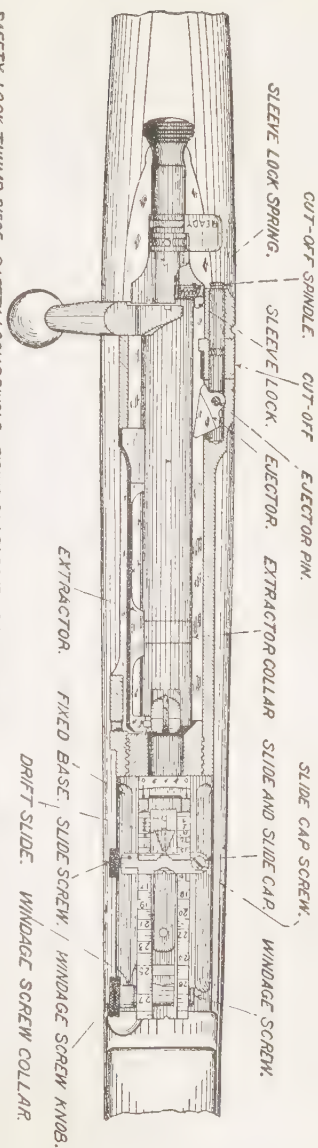


Fig. 29

It will be noted that in this system of bolt mechanism the compression of the mainspring, the seating of the cartridge in and the starting of the empty case from the chamber are entirely done by the action of cams.

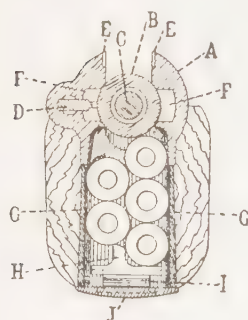


Fig. 30

The piece may be cocked either by raising the bolt handle until it strikes the left side of the receiver and then immediately turning it down or by pulling the cocking piece directly to the rear.

In firing, unless the bolt handle is turned fully down the cam on the cocking piece will strike the cocking cam on the bolt, and the energy of the mainspring will be expended in closing the bolt, instead of on the primer; this prevents the possibility of a cartridge being fired until the bolt is fully closed.

The opening and closing of the bolt should each be done by one continuous motion.

The Magazine Mechanism includes the floor plate, follower, magazine spring, and cut-off.

Figure 30 represents a cross section through the ejector with the magazine loaded. The parts shown are receiver, A; bolt, B; firing pin, C; ejector, D; clip slots, E; bolt locking lug channels, F; magazine, G; follower, H; magazine spring, I; and floor plate, J.

Figure 31 shows a cross section through the magazine with the magazine empty, and with cut-off "on," shown in projection. The parts are receiver, A; bolt, B; firing pin, C; cut-off, D; rear lug slot, E; bolt locking lug channels, F; magazine, G; follower, H; magazine spring, I; and floor plate, J.

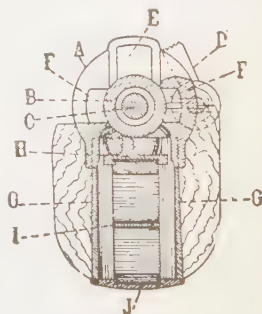


Fig. 31

To charge the magazine, see that the cut-off is turned up showing "on," draw the bolt fully to the rear, insert the cartridge from a clip, or from the hand, and close the bolt. To charge the magazine from a clip, place either end of a loaded clip in its seat in the receiver and, with the thumb of the right hand, press the cartridges down into the magazine until the top cartridge is caught by the right edge of the receiver. The manner in which the cartridges arrange

themselves in the magazine and the position of the follower and compressed magazine spring are shown in Fig. 30. The cartridge ramp guides the bullet and cartridge case into the chamber. The magazine can be filled, if partly filled, by inserting cartridges one by one.

Pushing the bolt forward, after charging the magazine, ejects the clip.

When the cut-off is turned down, the magazine is "off." The bolt can not be drawn fully back, and its front end projecting over the rear end of the upper cartridge holds it down in the magazine below the action of the bolt. The magazine mechanism then remains inoperative, and the arm can be used as a single-loader, the cartridges in the magazine being held in reserve. The arm can readily be used as a single-loader with the magazine empty.

When the cut-off is turned up, the magazine is "on"; the bolt can be drawn fully to the rear, permitting the top cartridge to rise high enough to be caught by the bolt in its forward movement. As the bolt is closed this cartridge is pushed forward into the chamber being held up during its passage by the pressure of those below. The last one in the magazine is held up by the follower, the rib on which directs it into the chamber.

In magazine fire, after the last cartridge has been fired and the bolt drawn fully to the rear, the follower rises and holds the bolt open to show that the magazine is empty.

Precautions

If it is desired to carry the piece cocked, with a cartridge in the chamber, the bolt mechanism should be secured by turning the safety lock to the right. Under no circumstances should the firing pin be let down by hand on a cartridge in the chamber.

To obtain positive ejection, and to insure the bolt catching the top cartridge in magazine, when loading from the magazine, the bolt must be drawn fully to the rear in opening it.

When the bolt is closed, or slightly forward, the cut-off may be turned up or down, as desired. When the bolt is in its rearmost position, to pass from loading from the magazine to single loading it is necessary to force the top cartridge or follower below the reach of the bolt, to push the bolt slightly forward and to turn the cut-off down, showing "off."

In case of a misfire it is unsafe to draw back the bolt immediately, as it may be a case of hang fire. In such cases the piece should be cocked by drawing back the cocking piece.

It is essential for the proper working and preservation of all cams that they be kept lubricated.

Dismounting and Assembling by Soldier

126. The bolt and magazine mechanism can be dismantled without removing the stock. The latter should never be done, except for making repairs, and then only by some selected and instructed man.

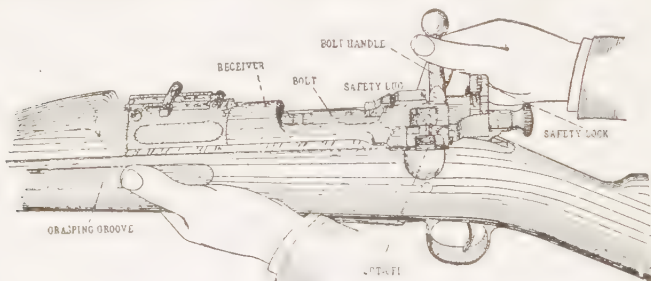


Fig. 32

To Dismount Bolt Mechanism

Place the cut-off at the center notch; cock the arm and turn the safety lock to a vertical position, raise the bolt handle and draw out the bolt (Fig. 32).

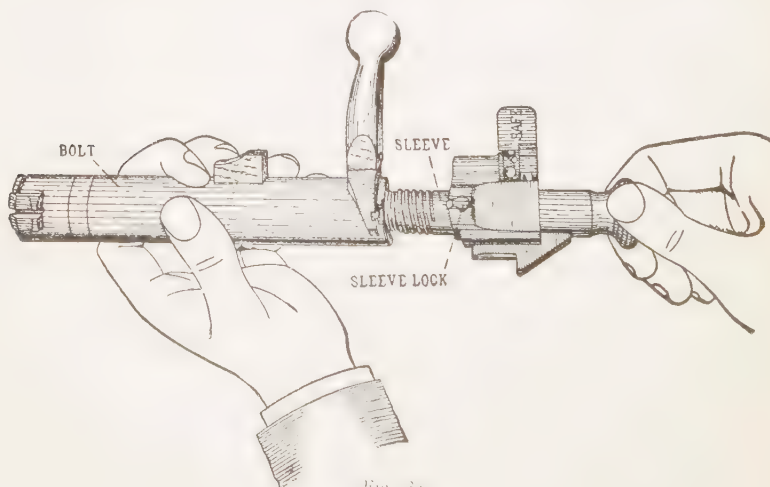


Fig. 33
[172]

Hold bolt in left hand, press sleeve lock in with thumb of right hand to unlock sleeve from bolt, and unscrew sleeve by turning to the left (Fig. 33).

Hold sleeve between forefinger and thumb of the left hand, draw cocking piece back with middle finger and thumb of right hand, turn safety lock down to the left with the forefinger of the right hand, in order to allow the cocking piece to move forward in sleeve, thus partially relieving the tension of mainspring; with the cocking piece against the breast, draw back the firing pin sleeve with the forefinger and thumb of right hand and hold it in this position (Fig. 34) while removing the striker with the left hand; remove firing pin sleeve and mainspring; pull firing pin out of sleeve; turn the extractor to the right, forcing its tongue out of its groove in front of the bolt, and force the extractor forward (Fig. 35) and off the bolt.

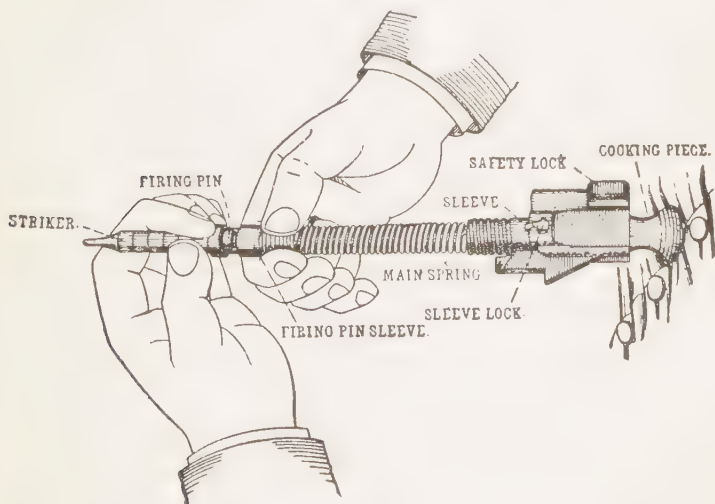


Fig. 34

To Assemble Bolt Mechanism

Grasp with the left hand the rear of the bolt, handle up, and turn the extractor collar with the thumb and forefinger of the right hand until its lug is on a line with the safety lug on the bolt; take the extractor in the right hand and insert the lug on the collar in the under-cuts in the extractor by pushing the extractor to the rear until its tongue comes in

contact with the rim on the face of the bolt (a slight pressure with the left thumb on the top of the rear part of the extractor assists in this operation); turn the extractor to the right until it is over the right lug;

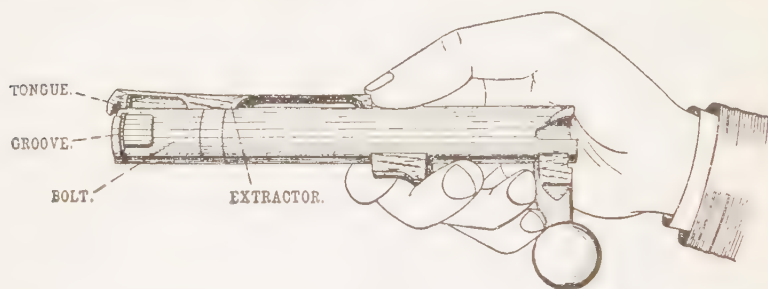


Fig. 35

take the bolt in the right hand and press the back of the extractor against the butt plate (Fig. 36) or some rigid object, until the tongue on the extractor enters its groove in the bolt.

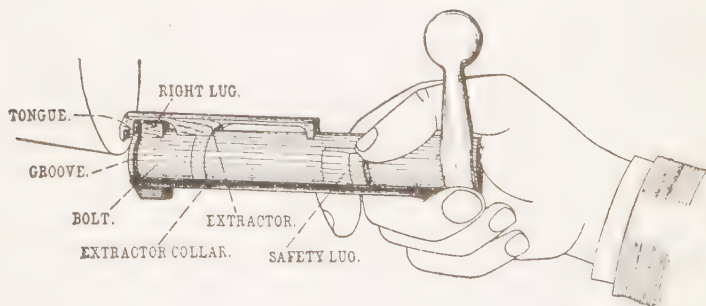


Fig. 36

With the safety lock turned down to the left to permit the firing pin to enter the sleeve as far as possible, assemble the sleeve and firing pin; place the cocking piece against the breast and put on main-spring, firing pin sleeve, and striker (see Fig. 36). Hold the cocking pin between the thumb and forefinger of the left hand, and by pressing the striker point against some substance, not hard enough to injure it, force the cocking piece back until the safety lock can be turned to the vertical position with the right hand; insert the firing pin in the bolt and

screw up the sleeve (by turning it to the right) until the sleeve lock enters its notch on the bolt.

See that the cut-off is at the center notch; hold the piece under the floor plate in the fingers of the left hand, the thumb extending over the left side of the receiver; take bolt in right hand with safety lock in a vertical position and safety lug up; press rear end of follower down with left thumb and push bolt into the receiver; lower bolt handle; turn safety lock and cut-off down to the left with right hand.

To Dismount Magazine Mechanism

With the bullet end of a cartridge press on the floor plate catch (through the hole in the floor plate), at the same time drawing the bullet to the rear; this releases the floor plate.

Raise the rear end of the first limb of the magazine spring high enough to clear the lug on the floor plate and draw it out of its mortise; proceed in the same manner to remove the follower.

To assemble magazine spring and follower to floor plate, reverse operation of dismounting.

Insert the follower and magazine spring in the magazine, place the tenon on the front end of the floor plate in its recess in the magazine, then place the lug on the rear end of the floor plate in its slot in the guard, and press the rear end of the floor plate forward and inward at the same time, forcing the floor plate into its seat in the guard.

CHAPTER XII

CARE OF THE HEALTH

127. Importance of good health. The strength of an army is not in its muster rolls, but in the number of men able to fight. Every sick man takes one rifle away from the firing line.

Good health is just as necessary to any army as rifles and ammunition.

A sick army is only a hospital, and no hospital has ever won a battle.

Because of the great demands made upon the body by marching, exposure to all sorts of weather and other hardships, and the nervous and physical strain of modern battle,—because of these demands upon the body, there is no other business in the world whose success depends so much on good health as does the business of soldiering.

Indeed, it is just as necessary for you to take care of your health as it is for you to take care of your rifle and ammunition.

The importance of doing everything possible to care for one's health is shown by the fact that history shows that in every war so far, many more men have died from disease than were killed in battle or died from wounds.

In our Civil War, for instance, for every man on the Union side who was killed in battle or died from wounds, two died from disease. In the Spanish-American War the proportion was 1 to $5\frac{1}{2}$.

Kinds of sickness. *There are only two kinds sickness:*

1. The kind that can be caught from other people or from animals.
2. The kind that can *not* be caught from other people or from animals.

DISEASES THAT CAN BE CAUGHT FROM OTHER PEOPLE OR ANIMALS

128. Germs. All diseases that can be caught are caused by little, tiny live animals or plants. They are called *germs*. Some of them are so small that you require a magnifying glass to see them.

Diseases that can be caught from other people or animals are called *infectious*. The entrance of germs into the body is called an *infection*.

(Note. A *contagious* disease is an infectious disease which is caught by *touching* other people or animals, or articles which have touched them as handkerchiefs, towels, books, letters, dishes, toys or pet animals.)

Infectious diseases are of great military importance, as they cause epidemics or pestilences,—that is, they spread rapidly from person to person until many people are sick at the same time.

They are the diseases that put most of the soldiers on the sick report when their country needs them on the firing line.

But, what is most important, they are unnecessary and can be prevented by care and attention.

The following illustrations show the typhoid and malarial germs and a tapeworm egg as seen through a magnifying glass:

Typhoid germs



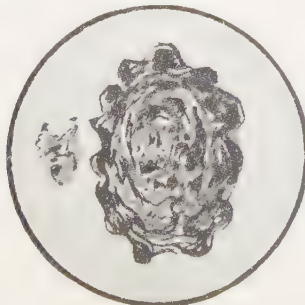
Magnified 1200 times

Malarial germs



Magnified 1200 times

Tapeworm egg



Magnified 1000 times

Fig. 1

Germ, —these little, tiny live animals and plants,—have peculiarities, and, just like larger animals and plants, they live and thrive under various conditions.

The polar bear and iceland moss, for example, live only in the arctic regions, and the palm tree and the alligator are found only in the tropics.

The water lily grows in water while the sage brush lives in the dry desert.

In the same way germs (the little animals and plants that cause disease) prefer certain parts of the body to grow in. And just the same as some earth is poor soil for certain plants to grow in so are some persons poor soil for certain disease germs to grow in and consequently such persons may have a very mild case of sickness or none at all, while other persons would have a very severe case of the same disease.

This is important to know because it teaches us the importance of avoiding persons who are only slightly sick, as they are able to give us germs that may grow very well in us and make us very sick, even perhaps causing death.

There is another peculiarity of germs that must be understood.

Just as a man can live safely with a tame bear that he has trained, but that will bite strangers, so do many persons live perfectly well with disease germs in them, which, if given to other persons, would make them sick. Such persons are called *Carriers*, and often live unsuspected while causing sickness among those they meet.

However, all germs do not cause disease,—it's only those that that make a poison (called "Toxin") that make us sick.

When a germ does not make toxin (poison) it is harmless. There are many such harmless germs living in our bodies, some of which are useful to us.

Sickness is really caused by a fight between a germ and its poison (toxin) on one side, and the body on the other. If the body is stronger than the poison, the man gets well. If the poison is stronger than the body, the man dies.

It is not uncommon for different kinds of germs to produce similar signs (symptoms) of disease. Therefore, from your symptoms you may think you have a certain disease while, as a matter of fact, you have another. We see from this the danger of a man trying to doctor himself by buying patent medicines and the chance he takes of injuring himself. If you do not feel well, see the surgeon, who will prescribe for you. Let him decide what is the matter. That is what he is for.

Don't think it manly to keep off the sick report when you don't feel well. It is foolish,—not manly. You may be giving your disease to every member of your squad. That is often the way epidemics get started amongst troops. Make it a military duty to avoid sick people, and if any member of your company complains of headache, chills, or a sore throat or cold, have him see the surgeon at once. Very often the worst diseases begin with little troubles.

A sick soldier, especially in the field, should be in a hospital where he can be taken care of and where he will not give his disease to others.

Remember that every soldier should be a sanitary sentry always on guard against sickness to himself as well as on guard against sickness to his squad, company and regiment.

While on post as a sentry, if you see anything going wrong you call the corporal of the guard at once and report it. So, likewise in your capacity as a sanitary sentry, if you see anything unsanitary try to correct it at once or report it to those who can correct it.

An army is like a baseball team. It is organized, equipped, and trained to win. But it can not win if a lot of the players are sick.

Remember you did not enlist to be sick when your country needs you to fight.

THE DIFFERENT WAYS OF CATCHING DISEASE

129. There are only five ways to catch disease:

1. BY BREATHING IN THE LIVE GERMS.
2. BY SWALLOWING THE LIVE GERMS.
3. BY TOUCHING THE LIVE GERMS.
4. BY HAVING THE LIVE GERMS STUCK INTO THE SKIN BY INSECTS THAT BITE.
5. BY INHERITANCE FROM PARENTS.

If you lived on a desert island alone, you could not catch disease, because there would be no one to catch it from, and if a thousand well persons came and joined you, still there would be no sickness, but if one sick person or a "carrier" came, that would be enough to make everyone on the island sick.

130. Diseases Caught by Breathing in the Germs

Colds in the head	Measles
Diphtheria	Scarlet Fever
Croup	Mumps
Tonsilitis or quincy	Meningitis (brain fever, spotted fever)
Whooping cough	Pneumonia (lung fever)
Influenza ("the grippe")	Bronchitis
Rheumatism	Consumption (tuberculosis of the lungs)
Running ear or earache	

The germs that cause these diseases grow well in the dark, warm, moist lining of the nose, throat, windpipe, and lungs, and they are coughed or sneezed out or blown out and float in tiny bubbles in the air or fall to dry into dust which is blown about with the wind, and so are breathed in, or they may be transferred directly by kissing invalids and sick children.

HOW TO AVOID BREATHING IN SICKNESS

Do not visit sick people or a house where the children are sick.

Do not let other people cough or sneeze over your food or in your face.

Do not allow others to spit on the floor of your squadroom or tent.

Do not do these things yourself.

Blow your nose into a handkerchief that can be boiled or into a piece of paper that can be burned.

Put your hand before your face when you cough or sneeze.

A man with a cough or sneezing should be sent at once to see a medical officer. Put him

on sick report. He is dangerous to the rest of the company.

Rinse out the nose with hot, weak salt water at night and especially after a dusty hike.

Brush the teeth after each meal and before going to bed.

Do not pick the nose with the finger nails; it makes sore spots in which germs grow.

On dusty hikes tie a handkerchief across the nose and mouth.

Never sweep the floor with a dry broom. Use a damp mop and so pick the germs up and carry them out instead of driving them up in the air as dust.



Fig. 2

Distributing sickness

When persons have come in contact with diphtheria patients we prevent the disease by injecting an antidote to the poison (toxin) of the diphtheria germ, which we call, *Antitoxin*.

131. Diseases Caught by Swallowing the Germs

Typhoid fever	Tuberculosis of bones, glands, and
Dysentery	brain
Cholera	Worms
Summer complaint (diarrhœa of infants)	Trichinosis (fleshworms)
	Ptomaine poisoning

The bowels as a living place for germs. The germs of the diseases just named and some of the worms, when swallowed, grow well in the bowels and from there may enter the blood. Others stay in the bowels. In any case the germs and the eggs of the worms pass out of the body in the bowel movements. Some of the eggs are swallowed by animals and enter their flesh, which when eaten, partly cooked, will give worms.

Water as a distributer of disease. When the bowel movements get into water courses these germs enter the water mains of cities and towns or get into reservoirs or wells. In a great many country places what goes down in the toilet comes up in the neighboring well, having traveled underground.

You cannot always tell polluted water by its appearance, smell, or taste. Unless from a sewer or drain, it may look clear and sparkling, with no smell and have a pleasant, sweetish taste.



Fig. 3

What goes down in the toilet often comes up in the well

Avoid water from unknown sources. Water from sources unknown or soiled by sewage, should be avoided as deadly, even when frozen, and should not be used, *unless boiled*, for drinking, brushing

131 (contd.)

the teeth, washing salads or vegetables or rinsing mess kits. All drinks, especially milk, diluted with such ice or water are dangerous.



Fig. 4

Water method of infection

Vegetables as a distributor of disease. In some localities the inhabitants use the streams for all purposes: drinking, washing clothes, bathing, washing vegetables and table utensils and 'as a sewer. When kitchen gardens are irrigated with such water the germs are to be found on the cabbages, beets, etc.

In the Philippine Islands, Hawaii, and along the Mexican border, Chinese truck gardeners use diluted human excrement to sprinkle over the plants and the germs may be found between the leaves of cabbage and lettuce and on parsley, radishes, beets, spinach, and asparagus, even after a thorough washing.

Food, fruit, cigarettes and drinking cups as distributors of disease. Germs are readily smeared on the hands of nurses or friends of the patient and may be transferred to articles of food, fruit, cigarettes, drinking cups, especially in public places, so that the soldier buying at the public stands is likely to have disease handed to him with his purchase.

From The Spitoon

From The Latrine



Fig. 5

The fly as a disease carrier. The ordinary fly is one of the worst and filthiest transmitters of disease in existence.

Flies carry germs from toilets, latrines, spittoons, and sick rooms to the food on your table, by means of their smeared feet, in their spit or in their specks.

Tuberculosis. The germs of tuberculosis may be swallowed and after growing in the bowels pass into the blood and so go to any organ of the body. They cause a great many forms of disease, the principal ones being consumption and bone disease. Great numbers of germs are coughed up and spit out by consumptives. Most of the crippled children whom we see, especially those with humped backs and hip joint disease, owe their trouble to tubercle germs that they swallowed in the milk of tuberculous cows.

Dwellings for worms; the company dog as a distributor.

Pigs, dogs, cats, cattle, and people with dirty habits, especially children, are liable to have worms. The eggs of worms are passed out and are often smeared on the the hands and so carried to the mouth. The company dog is often a distributor of worms to the company. He uses his tongue for toilet paper and afterwards licks his coat or licks the hands of his friends. Petting the company dog or any dog or letting him lick your hand is dangerous. You should at once wash your hands.



Fig. 6

Nice doggie!

(And "nice doggie" may be giving him some disease)

The hookworm. The hookworm eggs pass out of the body and hatch out in damp soil. The little worms will enter the skin of the bare feet causing "ground itch" or "dew itch." They then travel to the lungs, pass up the windpipe and are swallowed. When they reach the small bowel they attach themselves in great numbers and poison the blood so that it becomes very thin and makes the patient extremely weak and an invalid.

Trichinosis (pronounced *trick-i-nó-sis*). Certain very tiny worm eggs are found in the flesh of animals which, when eaten partly cooked, are swallowed alive and will grow in the bowels. In one form of the disease the worms burrow into the muscles and make little stony cocoons which give great pain like rheumatism and may cause death. This disease is called trichinosis.

Ptomaine poisoning. Ptomaine poisoning is due to the poisons of germs that grow in spoiled meats, fish, or milk.

132. How to Avoid Swallowing Diseases

Do not drink water that is not called safe by your company commander. If you have no one to ask and are traveling, it is safer to drink tea or coffee, because they have been made from boiled water, or to drink bottled mineral waters. In the field boil your drinking water. Boiled germs are dead and will not grow. They are, therefore, harmless.



Fig. 7
Boiling water to
kill germs

Beware of water from wells, farm pumps, ponds, cisterns, water coolers, and barrels, especially in railroad cars, stations, and ferry boats.

Do not drink lemonade, soft drinks, or milk from peddlers around troop trains and camps. Buy these things from your post exchange.

Always drink out of your own cup.

Beware of the public drinking cup.

Always wash your hands before going to meals and before putting things into your mouth, especially after going to the latrine or handling animals.

Do not adopt strange dogs and do not pet dogs.

Before eating fruit or raw vegetables, wash and peel them unless picked from the tree by yourself.

Do not eat food that is spoiled, smells or tastes badly or is fly-blown or maggoty or full of bugs.

Do not eat food which is not sufficiently cooked. All smoked, dried or salt meats or fish, such as ham, bacon, sausage, dried beet, bloaters, salt mackerel or codfish, must be well cooked, as they may contain "Measles" or other worm eggs. Cooking kills the eggs.

Do not eat food exposed on public stands to dust, flies, dirty hands, dirty water, dirty cans, or dirty glasses and buckets.

Do not allow flies to breed in manure nor walk on your food. This is possible by burning manure or burying it, at least three times a week (daily is safer), or spreading it out very thin so as to dry in a hot sun which kills maggots. Use fly traps, "swatters" and fly paper.



Fig. 8

Next!

*(What germs will he
leave on the cup?)*



Fig. 9
Swallowing
sickness

A teaspoonful of formaldehyde (obtained from the surgeon) in a saucer of water is a good fly poison.

Do not wet lead pencils with your spit.

Do not wet your fingers with spit when you deal cards or turn over pages of books or magazines.

Keep the teeth brushed and the mouth clean. Have decayed teeth repaired at once. Decayed teeth drop out and they cause abscesses which may destroy the jaw bone or cause brain fever. Old snags give the stomach the germs of rotting, which cause dyspepsia.

The great prevention of typhoid fever, called *Typhoid Prophylactic*, depends upon the fact that the typhoid germs when swallowed enter the blood and make a poison (toxin). The body makes an antidote (counteracting remedy) for this toxin called an antitoxin.

Let us compare the body to an army camp. $\left. \begin{array}{l} \text{Rioters} \\ \text{Typhoid germs} \end{array} \right\}$ enter and destroy and damage (action of the toxin). $\left. \begin{array}{l} \text{The guard turns} \\ \text{Antitoxin is made} \end{array} \right\}$ out and tries to overcome the rioters. A fight follows (this is the symptom of the disease). $\left. \begin{array}{l} \text{The rioters} \\ \text{The typhoid germs} \end{array} \right\}$ are overcome and a period (convalescence) follows in which the $\left. \begin{array}{l} \text{Camp} \\ \text{body} \end{array} \right\}$ is restored to a normal condition.

Knowing this we play a trick.

We inject fifty million dead typhoid germs in a little salt water under the skin. Immediately the $\left. \begin{array}{l} \text{guard} \\ \text{antitoxin} \end{array} \right\}$ turns out only to find the rioters dead. Their bodies are carried off. This is the period of dizziness, headache, nausea and slight fever which some few feel after the first injection. The $\left. \begin{array}{l} \text{guard} \\ \text{antitoxin} \end{array} \right\}$ remains $\left. \begin{array}{l} \text{on duty patrolling} \\ \text{floating in the blood} \end{array} \right\}$. Ten days later we repeat the trick with 100 million dead germs and more $\left. \begin{array}{l} \text{guard turns out} \\ \text{antitoxin is made} \end{array} \right\}$. The increased $\left. \begin{array}{l} \text{guard} \\ \text{antitoxin} \end{array} \right\}$ remains $\left. \begin{array}{l} \text{on guard pa-} \\ \text{trolling} \\ \text{blood} \end{array} \right\}$.

Ten days later we repeat the trick for the third and last time when all the antitoxin possible is made. This guard or antitoxin remains patrolling in the blood for about three years or longer, so that if some live typhoid germs enter the body later and begin to make trouble they are overwhelmed by the large guard at once and no damage is done,—that is, no sickness results.

133. Diseases Caught by Touching the Germs

(Or by having them rubbed into a cut, wound, chafe, sore or other opening in the skin.)

Ringworm	Gangrene
Mange	Lockjaw
Barber's Itch	Rabies (hydrophobia)
Dhobie Itch	Glanders
Sore eyes	Chicken pox
Inflammation and pus ("matter")	Smallpox
Boils and pimples	Chancroid
Carbuncles	Syphilis (the "Great pox")
Erysipelas (St. Anthony's Fire)	Gonorrhœa (clap)
Blood poisoning	

Lice, scabies, fleas, chiggers, bedbugs, and screwworms are also caught by touching.

Ringworm, mange, barber's itch, dhobie itch and some forms of eczema are due to small plants, called "Fungi," which resemble the mould which grows on cheese or the mildew on leather. They are carried from person to person by finger nails and hands and from dirty water to those who bathe in it or have their underwear washed in it. Children and recruits are often infected.

The germs that cause inflammation in wounds, boils, abscesses and blood poisoning are always to be found on the skin and are everywhere in nature where men and animals are found.

The germs of lockjaw, gangrene, and gas gangrene are found in manure and in soil fertilized with it; hence, a bullet which passes through such soil before wounding carries these germs into the wound. Any wound soiled with such dirt will be infected. Also, wounds made by toy pistols and fire-crackers often contain lockjaw germs.

Glanders is a disease of horses and mules. The germs are caught from the running noses of the animal which may sneeze in the face or on the hands and so be carried to the nose or eyes of the man.

Hydrophobia is caught from the bite of mad (rabid) dogs. The germs of hydrophobia are in the spit of mad (rabid) dogs, and they travel through the nerves from the bite to the brain.

Chickenpox and smallpox are caught by touching patients or handling objects which they have handled, as handkerchiefs, towels, bedding, pet animals, or toys.

Chancroid, syphilis and clap are diseases whose germs are usually caught from prostitutes and whores, or from husbands who have caught the germs from prostitutes and whores. They are called "Venereal diseases," after Venus the Roman goddess of lustful love, but they are very often caught in other ways than in sexual intercourse, and by innocent persons.

The chancroid plant causes a very nasty sore, the *chancroid*, which often destroys much flesh and causes buboes. The germ can be carried on the fingers to any part of the body. When the chancroid is healed and the bubo becomes a scar the disease is cured.

The *syphilis* germ will grow first where it is rubbed in, causing a hard ulcer, called a chancre, and after that it travels through the entire body. No place is sacred to its destructive power and it lives as long as the patient does. It is the cause of much insanity, palsy, apoplexy, deafness, blindness, and early death. In mothers it causes miscarriages and in children it causes stillbirths, freaks, deformities, feeble minds and idiots; also, deaf and dumb, palsied, stunted, sickly, and criminal conditions.

A syphilitic person is always dangerous although apparently well. He often has a sore mouth and his spit is as dangerous as that of a mad dog. The bite of such a man will develop a chancre and any pipe, cup, or tooth pick which he uses, or his kiss, will give syphilis. A syphilitic tattooer who wets his needles and his India ink with spit will put a chancre into the skin with the picture.

The instruments of cheap advertising dentists and of quack doctors or ignorant nurses can carry these germs from one person to another. So can the razors and caustic stick of barbers who are careless.

The clap plant likes to grow in the linings of the openings of the body where it is dark and warm and moist where it causes a catarrhal discharge called *clap*, which is easily smeared on hands, towels, handkerchiefs, or by actual contact.

It grows well in the eyelids, causing great damage and often blindness. Many babies get the clap plant into the eyes during birth, from the mother, and unless treated within a few minutes after birth, have sore eyes and go blind,—a terrible calamity to the child and the family. If you have clap the germs can be carried on your hands to your eyes.

The clap plant also grows well in the cavities of the joints, causing rheumatism and crippling; it grows in the heart, causing valvular heart disease, which is incurable, and also in the generative organs of men and women, causing self-made eunuchs and childless wives. It is the cause of most of the severe abdominal diseases of women requiring the use of the knife to cut out the diseased part.

The venereal diseases cause more misery than any others and most of the doctors would have to go into other professions to earn their living if these diseases did not exist.

When a young man is "sowing his wild oats" he is really planting in his own body the syphilis and clap plants, and the harvest will be greater than any other crop. He will reap it in days of bed-ridden misery, and possible sudden death. He will reap it in bitter hours by the bedside through the illness and death of his wife or in her long years of ill health. He will reap it in little white coffins, idiot babies; blind, deaf and dumb, sickly and stunted children. And it will cost him lost wages and hospital and doctor fees.

Yes, the wild oats crop is a bumper crop. King Solomon was wise when he warned his son against the harlot, "for her end is bitter."

134. How to Avoid Touching Diseases

Keep your skin clean with soap and water.

Do not bathe or wash your clothes in dirty water, have them boiled when laundered.

Do not go barefoot, even in barracks.

Do not use towels or toilet articles of other people, especially in public wash-rooms unless they furnish a fresh towel for you. Do not sleep in houses left empty by the enemy unless ordered to do so.

Do not sleep in native shacks in the tropics.

Do not rub the eyes with dirty hands. When dirt gets in have a doctor get it out.

If you have clap, do not rub your eyes with your hands, and wash your hands well with soap and water after taking treatment or passing water.

Do not handle dogs or cats, especially strange or sickly ones.

Do not clean the ears with sticks or straws,—have a doctor do it for you.

Do not have cheap, advertising dentists fix your teeth. Have the army dentist fix them and see him at least once every six months,—or see a good civilian dentist.

Do not have pictures tattooed on your skin.

Do not smoke other men's pipes.

Do not handle or touch wounds with anything but a first aid package.

Beware of chipped drinking glasses in cafés, restaurants and other places. The slightest cut from such a glass whose chipped part has been in contact with the mouth of a syphilitic person will give you syphilis.

The company barber must scald his razors and soap after every shave and must not use caustic stick on sores and cuts.

Smallpox is prevented by rubbing the germs of cowpox, a very mild disease, into a scratch in the cleaned skin. This is called vaccination. The body makes an antitoxin to cowpox, which is also an antitoxin to smallpox.

Hydrophobia is prevented by avoiding dogs, by having pet dogs muzzled and by catching and tying up or killing strange dogs. There is no hydrophobia in England or Australia because for a number of years all dogs were muzzled. Now dogs do not have to be muzzled there.

If bitten by a rabid dog, you must take the Pasteur treatment as soon as possible.

Seek good companions like your mother and sister. Keep away from John Barleycorn. He always wants to turn you over to a harlot.

Whores and prostitutes are all diseased and will give you germs that will live to give diseases to you, your wife and your children, forty years from now. Keep away from them.

135. War Department orders regarding venereal disease. General Orders No. 31, War Department, 1912, direct that no enlisted man "absent from duty on account of disease resulting from his own intemperate use of drugs or alcoholic liquors or *other misconduct* shall receive pay for the period of such absence."

General Orders No. 71, War Department, 1913, amending G. O., 17, W. D., 1912, direct that, "Commanding officers will require that men who expose themselves to the danger of contracting venereal disease shall at once upon their return to camp or garrison report to the hospital or dispensary for the application of such cleansing and prophylaxis as may be prescribed by the Surgeon General. Any soldier who fails to comply with these instructions shall be brought to trial by court-martial for neglect of duty." It further states that a medical officer and each organization commander will make two physical inspections of all the enlisted men of the command (except married men of good character) each month to observe the state of personal cleanliness and detect venereal diseases.

Should you discover that you have clap or other venereal disease, report to the hospital *at once* for treatment. You will receive the best possible treatment and it will cost you nothing. Don't commit the error of attempting to hide your misfortune or of going to some cheap civilian doctor in the hopes of keeping the facts from the military authorities. It is much better to go to the hospital *immediately*, receive proper treatment and forfeit a few days' pay than it is to risk your future health and happiness.

The cleaning mentioned in the above order consists of:

1. Washing the penis thoroughly with soap and water.
2. Injecting into the penis a solution of 2% Protargol (2 parts in water to make 100) which must be kept in the penis for 5 minutes, by the watch, in order to kill the clap plants. This is done by pinching the opening of the penis. Repeat this.

3. Rubbing in thoroughly all over the penis an ointment (of Calomel 30 parts in Benzoinated Lard to make 100 parts). Protect this by paper or cloth. This is to kill syphilis and chancroid germs.

This treatment has also been put up in a collapsible metal tube inside a cigar shaped container to be carried in the vest pocket. It is called a "K packet," and is sold by the drug stores and some post exchanges for a few cents.

136. Diseases Caught From Biting Insects

Malaria	Plague (bubonic fever)
Yellow fever	Rocky Mountain fever (spotted fever)
Dengue fever	
Typhus fever (jail fever)	Sand-fly fever

The germs of malaria, yellow fever and dengue fever live in the blood and are sucked up into the blood by mosquitoes when they bite.

Malaria germs, however, will develop only in the mosquito called, *Anopheles*.

Yellow fever germs will develop only in the mosquito called *Stegomyia*.

Dengue fever germs will develop in the mosquito called *Culex* and in *Anopheles*.

After a period of development in these mosquitoes the germs will find their way to the spit glands and are injected into the person whom the mosquito bites. (Note. Male mosquitoes cannot bite.)

The malaria mosquito can get the germs any time she bites a person who has them in the blood and many persons



Fig. 11

The *Culex* mosquito (She is hump-backed)



Fig. 10
The malaria mosquito (She stands on her head)



Fig. 12

Catching malaria

have them long after getting well of the chills and fever. They are carriers. The malaria mosquito cannot give the germs to another person until they have passed through a period of about 12 days' growth in her body. Then she can give them as often as she bites.



Fig. 13

Twelve days later

The yellow fever mosquito must bite the yellow fever patient *during the first three days of his fever*, for after that time the germs are not in his blood. She then must have them develop in her for twelve days before her bite is deadly.

The only way that malaria, yellow and dengue fevers can possibly be caught is from mosquitoes.

Plague is a disease of rats, squirrels and other small fur bearing animals found in China, Hawaii, the Philippines, and in California, Idaho, Oregon, Washington, and New Orleans. *The disease is carried by fleas* which bite the rat and then when the rat dies of plague

the flea hunts another rat or some person in the house and bites him, giving him the germs.

Rocky mountain fever (spotted fever) is a disease of wild game in the northern part of Idaho and in the Bitter Root Valley in western Montana. It is carried to trappers, hunters, prospectors and others by ticks which infest the game.

Typhus fever is carried by body lice.

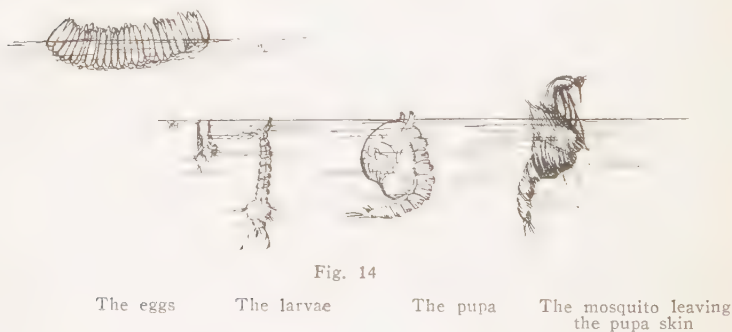
Sand-fly fever is carried by sand flies. It is found only in Asia and the Mediterranean Sea.

137. How to Avoid Diseases Caught From Biting Insects

Malaria, yellow and dengue fevers. To avoid the diseases carried by mosquitoes we screen all houses with fine wire screens and use mosquito nets on the beds. Also, under certain conditions we take daily doses of quinine in malarious regions.

We kill the mosquitoes.

To do this we must know their habits.



Mosquitoes all lay eggs in water. These hatch out as *wigglers* or *larvae*, which have to come to the top frequently to breathe. In about twelve days or longer they turn into *tumblers* or *pupae*, which in a few days longer come to the top when their backs split open and the mosquito comes out and flies away.

The *malaria mosquito* is domestic like the chicken and lives around and in houses hiding in the grass, bushes, or dark corners and comes out to bite at night. When a settlement is abandoned the malaria mosquito moves away also. She rarely flies far from home and is not found much beyond 500 yards from a house. She lays her eggs in running clear water preferably but she will accept water in hollow trees.



Fig. 15

On Guard

(No mosquito bites for him)

between the leaves of lilies or air plants or in vases of flowers or in cisterns and water butts.

The yellow fever mosquito is domestic like the house cat. She hangs around the house and rarely flies as far as the next house even preferring to travel on a visitor's coat. She will bite in the day time and will lay her eggs in any little collection of water in the house, the eaves trough, the water barrel, old tin cans, or bottles, pitchers, vases or the refrigerator drip.

The dengue mosquito is a marsh and town mosquito. She flies far and well and will breed in any sort of water, even brackish.

To kill mosquitos—

We catch them in the house.

We empty all water from tin cans, old barrels, etc.

We cover with wire all cisterns and water barrels.

We fill in all puddles and drain off marshes.

We put oil on all pools and streams to choke the wrigglers.

We cut down grass and bushes around houses.

Plague is prevented by ridding the town or city or ship or building of rats by killing, trapping, closing up burrows, removing trash and rubbish and making concrete cellars and tin lined granaries.

Ships prevent rats from boarding by a tin shield around the ropes that fasten them to their docks.

Squirrels, weasels, and woodchucks sometimes have plague. It is wise not to pick up dead squirrels, weasels or rats except with tongs.

138. Diseases That Cannot be Caught From Other People or Animals

These diseases comprise injury done to the body in one of three ways:

By ill treatment.

By poisons.

By violence.

Any one suffering injury due to any one of these causes is not so able to fight off germs.

A healthy body prevents sickness. There are some persons who have never been ill in their lives because they have healthy bodies that are able to make antitoxins in sufficient amounts to meet and conquer germs and their toxins.

If, however, even the most robust and healthy person be starved, his body chilled, or overheated, or exhausted from fatigue and lack of sleep, or poisoned by alcohol or drugs, or his mind depressed by fear, worry or disappointment, or if he dwell in filth and foul air, he will readily become sick from some attacking germ.

A cur dog can worry an exhausted lion,—and so can small germs get the best of an exhausted man.

Taking care of the body is the best way to keep in good health.

How to Avoid Injuring the Body by Ill Treatment

139. The knowledge of taking care of the body is called *Hygiene*, and the rules, which are as follows, are very simple:

1. KEEP THE SKIN CLEAN.
2. KEEP THE BODY PROPERLY PROTECTED AGAINST THE WEATHER.
3. KEEP THE BODY PROPERLY FED.
4. KEEP THE BODY SUPPLIED WITH FRESH AIR.
5. KEEP THE BODY WELL EXERCISED WITHOUT EXHAUSTION.
6. KEEP THE BODY RESTED BY SUFFICIENT SLEEP.
7. KEEP THE BODY FREE OF WASTES.
8. KEEP THE MIND BUSY AND HAPPY.

Sanitation is the practice of the laws of Hygiene.

RULE 1. Keep the skin clean. A dirty body invites sickness. Small troubles such as chafing, sore feet, saddle boils, sore eyes, felons, whitlows, earache, toothache, carbuncles, fleas, lice and ringworms, are all caused by lack of cleanliness, and they put men on sick report.

Owing to excessive perspiration a daily bath with soap is desirable in summer and in the tropics, the year around. At least a weekly bath should always be taken when possible. When not possible to bathe, take a good rub daily with a dry towel.

Keep your feet clean with soap and water and put on dry socks before sleeping at night. Soiled socks should be washed and hung up to dry over night.

Keep your finger nails trimmed short with scissors or knife. Never bite them off. Keep them cleaned and keep your hands washed, especially at meal times.

Underwear must be washed in clean water, hot when possible and when soiled change as soon as possible.

Do not bathe or wash your clothes in dirty water. Bathing in water containing much alkali (hard water) or fine sand or mud will make the skin smart or chafe easily and cause sore eyes.

The hair of the head should be kept well-trimmed.

RULE 2. Keep the body properly protected from the weather. Clothing of the soldier is worn as a protection. Too much causes sweating and exhaustion on the march and too little causes chills and frost bite.

It should always be loose, not only because tight clothing interferes with the free and easy movement of the body, but especially because it slows the flow of the blood to the hands, feet and head, where it is most needed.

Do not rest in wet clothing nor let it dry on the body, if possible to change.

When resting after exercise or while doing guard at night, more clothing should always be put on.

When sleeping, especially in the tropics or hot weather, the belly must be protected from chilling by a flannel bandage or the shirt tucked into the drawers, or a pillow laid across.

Never sleep in a draught without covering.

It is wise to tie a handkerchief over the head and ears at night to prevent sore throat and earache.

Never sleep on the bare ground when you can sleep on branches, hay, or anything else.

When possible, in bivouac pick a dry place on high ground in the shelter of a hill or woods to lie down on.

In the heat of the summer and in the tropics keep out of the sunshine as much as possible, and when in it always wear your hat.

When bathing in the sun in summer or in the tropics always wear long sleeved shirts and drawers to prevent sunburn, which sometimes will cause dreadful blisters.

In winter time never ride when you can walk. Many have lost their feet from frost bite by riding in wagons instead of walking.

When it is very cold pull woolen socks over the shoes and then put on snow excluders or arctics, and at night wrap the feet in clothing, grass or straw to prevent freezing while asleep.

Be careful to rebutton the clothing in winter time after attending to Nature's calls. Cold fingers may make you careless, but the cold is merciless and may cause a bad frost bite.

The first feeling of frost bite is numbness and the first sign is a marble whiteness. Frost attacks first the nose, ears, cheeks, fingers and toes.

Sun glare and snow blindness may be prevented by colored goggles or a handkerchief tied across the face with a small slit for the eyes or by greasing the face and eyelids and rubbing in charcoal around the eyes.

RULE 3. Keep the body properly fed. Your company mess is sufficient for your needs and is wholesome, provided it is well chewed. Large lumps of food take a longer time to digest than small particles do, and so they tire the stomach and also cause constipation, gas and indigestion with headache.

Do not eat food left behind in strange houses or by the enemy, nor food that smells or looks badly.

If haversack rations are issued to you, do not eat them all at the first meal, but make a division for each meal. Stuffing will make you sick on a hike and later, hunger will drive you to eat things you would not touch at other times.

Before starting on the day's hike drink all the water you can and fill your canteen with water only.

Be sure your canteen does not leak.

After starting, do not drink anything until the end of the hike.

Do not eat ice or snow to quench thirst. It will make you more thirsty. Do not drink large quantities of cold spring water when heated,—it will give you a very bad bellyache.

Do not drink whiskey or beer, especially in the field. It will weaken you and favor heat exhaustion, sunstroke, frost bite and other serious troubles.

Alcohol muddles the mind and clouds thoughts, and so causes a feeling of carelessness and silliness that may ruin some military plan, or give the whole thing away to the enemy and with it the lives of yourself and your comrades.

The soldier who drinks alcohol will be among the first to fall out exhausted.

If you use tobacco, do not chew or smoke while marching. Tobacco is only a dope and increases the work of the heart.

A cup of hot coffee is a good stimulant.

RULE 4. Keep the body supplied with fresh air. The brain, kidneys and other internal organs require oxygen (a part of the air) continually, and if deprived of it for five minutes, the body will die.

Therefore, it is easy to see that we must continually get plenty of fresh air into the lungs to supply the blood which carries the oxygen throughout the body. Except in winter time when steam-heated barracks are filled with sleeping men, it is not, as a rule, difficult to get all the fresh air we need. The air in a dormitory should smell sweet and clean, even though warm. Fresh air should be continually admitted in a way that will not throw a draft on any of the sleepers.

It is much better to sleep in a cold room with fresh air than in a hot stuffy one.

Fresh air not only prevents consumption, but it will cure mild cases of consumption without other medicines.

RULE 5. Keep the body well exercised without exhaustion. Exercise is absolutely necessary to good health. Lack of exercise of any set of muscles will cause them to grow flabby and weak. Outdoor sports are the best form of exercise, because they use all the body muscles, and are in the open clear air.

Exhaustion, on the other hand, not only weakens the muscles of the body, but it also lessens the vital forces and powers to resist germs.

RULE 6. Keep the body rested by sufficient sleep. Give the body enough sleep. Eight hours of uninterrupted sleep are enough for the average man, and you should always have that much in every twenty-four hours. Remember your comrades need it also; so, if you come in after taps, do not make a racket with slamming doors, heavy tramping, talking or whistling. And in camp be careful not to fall over tent ropes or step on other sleepers. Do not drink coffee at night,—it will keep you awake and rob your body of needed rest.

When on the march take advantage of every halt to rest your body. As soon as the command is given to fall out, select, if possible, a good dry place on the side of the road to sit or lie on. If carrying the pack, loosen it and rest back on it, in a sitting or lying position. If the march has been a long one, lie flat on your back and raise the feet in the air. This is a quick way to remove the heavy dragged feeling of the feet and legs and to rest the heart, because the blood runs out of the legs into the body.

RULE 7. Keep the body free of wastes. Get into the habit of emptying the bowels at a certain hour each day. Immediately after breakfast is a good time. This is a habit that can be cultivated just like any other habit. Cultivate it. It will do much to keep you in good health.

Always empty the bowels and bladder, especially the bowels, whenever you have the least desire to do so. Do not allow a little personal inconvenience or laziness to prevent you from doing this. The wastes from the bowels and bladder, especially the bowels, are poisons that should always be expelled from the body just as soon as possible.

The free drinking of water flushes the bladder and helps to loosen the bowels. A glass of hot water soon after reveille will not only help to loosen the bowels, but it will also benefit the stomach and flush out the bladder. Some people drink a big glass of water, either hot or cold, every morning before breakfast.

Proper physical exercise and eating ripe or cooked fruits will also do much to keep the bowels open.

Pressing and rubbing *downward* with the left hand on the lower *left* side of the belly will do much to induce a movement of the bowels.

Most constipation comes from swallowing food in large chunks, drinking large quantities of cold liquids with the meals and eating heavy articles of diet, such as, beans, fried pork, hot bread.

Do not get into the habit of using laxatives to keep the bowels open. Their continued use is injurious. Use the natural means suggested above.

The constant moderate use of alcohol injures the kidneys and when they become too weak to work and throw off the waste, a deadly disease, called "Bright's Disease," results.

RULE 8. Keep the mind busy and happy. The amusements of the post, fort or camp should be patronized. Visit the company recreation room and library, the post library, post exchange, movies and the gymnasium, and indulge in baseball, bowling, etc., also in swimming, when possible.

When tired of these amusements and recreation, apply yourself to some line of study. The post school is for that purpose. The chaplain and your company commander may start you upon a career that may become of great advantage to you in the service and after you leave it.

And don't forget to write home. Your letters will give you satisfaction in writing them, and will afford pleasure to your people, and the replies will keep you in touch with home, the source of the best associations of life.

Never loaf, keep busy and you will keep happy and out of sickness and trouble.

How to Avoid Injuring the Body With Poisons

140. The surest way to speedily injure the body is by using poisonous drugs.

Some poisons are so agreeable, even though deadly, that persons with weak characters and no grit will persist in their use until a habit is formed, which kills them.

Such poisons as tobacco and alcohol take longer to kill; and they are sneaks doing damage in unseen places.

Such poisons as opium, taken in the form of smoke; morphine taken as a pill or injected into the flesh with a needle syringe; cocaine taken as a snuff; chloral taken in water; wood alcohol taken in cheap liquors and in essence of ginger; ether and chloroform breathed in,—these are all poisons which form most injurious habits or kill rapidly, but before killing the man they make a feeble, miserable wretch of a pauper of him, ruined in health, blind, or insane,—the kind of a creature that commits the crime of murder or suicide.

Not one of these drugs mentioned is necessary to good health. Most of them are safe only when used for the purpose intended and by a physician, and some, such as alcohol and tobacco, have no excuse at all for being used as a pleasure.

The habit of taking patent medicine is a dangerous one, as many of them contain deadly drugs in dangerous quantities, even though labelled harmless.

How to Avoid Injuring the Body by Violence

141. The prevention of accidents in civil life does not concern us here. The prevention of accidents of military life through actual combat is the earnest study of all military men and the aim of all from the commanding general down. These will be taught by your company commander.

The greatest cause of accidents is carelessness; the next greatest is "showing off," and both are often the result of alcohol.

Neither carelessness nor bravado has any place in the military service. Remember that bravery and "showing off" are two opposite things.

CHAPTER XIII

CAMP SANITATION

142. By "Camp Sanitation" we mean what we must do to take care of the health in camp, where we have not the comforts and sanitary conveniences of barracks. In camp the comforts and sanitary conveniences of barracks (toilets, bath-rooms, sinks, running water, etc.) are replaced by various substitutes called "Camp expedients" (latrines, incinerators, urinal tubs, etc.), which are designed to promote, secure and preserve the health and comfort of the troops.

Everything must be done to prevent the existence of conditions that will cause stinks and be favorable to the breeding of flies and mosquitoes, the two great carriers of disease. Therefore, we see the vital importance of cleanliness,—absolute cleanliness,—of body, clothing, equipment, tents, ground, sinks, kitchen, etc.



Fig. 1

Flies breeding on the picket line

Your tent must be kept clean and in order. When possible clean your shoes before entering your tent in muddy weather.

The company street and the ground around all tents must be kept clean. Do not throw food, slop water, rags, paper, empty tin cans, or other trash and refuse on the ground, but put them in the box, the can or other receptacle provided for the purpose or throw them into the kitchen incinerator (the place prepared for the burning of trash and refuse).

Do not defile the company street or camp grounds by spitting, blowing the nose, urinating or moving the bowels there. All these things transfer germs that are liable to cause disease.

Spit in a fire when you have to spit.

Blow the nose in a piece of paper that can be burned or a handkerchief that can be boiled.

Use the urinal tub at night and the latrine by day. If an open trench is used as a sink, always cover your excrement with dirt. If the sink is inclosed by a box with stool-covers, always put the covers down as soon as you are through so as to keep the flies out.

Kitchen garbage must be burned in a pit by the kitchen or put into *covered* cans for hauling away. *The covers must be kept on the cans at all times*, so as to keep out the flies.

Do not ride horses through camp except on the roadways.

The camp is no place for dogs. When you go into the field leave the company dog back in the post, and do not pick up any stray dog on the march. All stray dogs following troops should be shot. Dogs defile the camp,—often spoiling rations in the store-tent, and they easily convey diseases, especially rabies (hydrophobia). A mad dog (that is, one that has rabies) is at first affectionate and then becomes delirious, when he snaps at everything and runs until exhausted.

It is dangerous to pick up tired out or sickly looking dogs, or to fondle strange ones.

Keep the inside of your tent dry and free from odors,—so, in pleasant weather always have your tent walls raised, and air your blankets and extra clothing often.

It is a very natural thing to try and stop up all crevices in and under the tent in cold weather. This will make the tent close and stuffy at night and you will wake up feeling tired, stiff, heavy and possibly with a headache, all due to insufficient fresh air.

In cold weather heat the tent and wrap up warmly and be sure to let in fresh air, preferably through the door.

As soon as your tent is pitched, ditch it. When it rains loosen the guy ropes to prevent the pegs from pulling out and the tent collapsing.

Clean your body and your clothes daily as thoroughly as the means at hand will permit. Never lose an opportunity of taking a bath or of washing your socks and underclothing. A bullet passing through dirty clothes will often cause a seriously infected wound which would otherwise be comparatively harmless.

In the morning wash the face and neck with cold water. Don't forget to use your toothbrush afterward.

The feet should be bathed or mopped with a wet towel every evening to invigorate the skin. Dirty feet invite blisters.

The feet should be kept clean and the nails cut close and square. An excellent preventive against sore feet is to wash them every night in hot (preferably salt) water and then dry thoroughly.

Rubbing the feet with hard soap, grease or oil of any kind and putting foot powder in the shoes before starting on a march are also good.

A little alum in warm water is excellent for tender feet.

Blisters should be pricked and the water let out, but the skin must not be removed. Adhesive plaster on top of the blister will prevent the skin from being pulled off.

In the continued absence of opportunity for bathing it is well to take an air bath and moist or dry rub before getting into fresh underclothes.

If the lack of opportunity to wash clothes continues for any length of time, soiled clothes and bedding must be frequently exposed to the sun and air. Sunshine is a good germ killer.

Keep the body protected against the weather. Do not run out at night in the cold in your undershirt nor in your underwear.

In cold weather do not go around without an overcoat just to show how foolish you are.

Do not go without a hat in the tropical sun.

Wet clothes should be changed at the first opportunity. Never let wet shoes dry on your feet over night.

In cold weather make your bed on the ground on straw, leaves or branches for warmth. In warm weather bunks are preferable.

Never sleep on the bare ground, especially damp ground, when you can get hay, straw, grass, leaves, branches or anything else.

Before going into the field see that your clothing is in good repair, all buttons are on, your underwear in good condition, your socks have no holes, and that your shoes are sound and strong, and have hob nails. Do not have the soles literally covered with nails but have them put in as shown in the illustration.



Fig. 2

Carry an extra pair of shoe laces. A broken lace will loosen the shoe which will soon cripple you.

Always wear wooden socks to march in. Cotton socks cause blisters.

Wear shoes that fit and keep them soft with grease.

Under no circumstances should a soldier ever start off on a march wearing a pair of new shoes.

Be sure to have some needles and pins in a well-corked bottle (to keep them from rusting), some coarse thread, some buttons, a pair of small scissors, a string, an awl and a small knife.

Keep the body properly fed. Do not eat all of your day's ration at the first halt and do not buy fruit and pies from peddlers, but eat what comes from your company kitchen.

In the company kitchen there should not be a single fly on the food although there may be flies in camp. Food must be kept screened or covered until served, and not served until ready to be eaten.

Neither the cook nor his assistants should have any infectious diseases. If they have, especially gonorrhoea and "walking typhoid" and even trivial ailments, they should be treated by a medical officer at once.

If you are the company cook, keep everything in your kitchen and mess tent clean with hot water and soap. Boil your utensils and dish rags. Throw all your slops and garbage into your kitchen incinerator.

Stable sweepings if well dried and mixed with twigs, leaves and rubbish will make fuel and save kindling wood.

Exercise is not done at the discretion of the soldier when in the field. Nevertheless, in periods between military engagements or maneuvers exercise in games and sports keeps a man fit and is a pleasure.

Rest and sleep are most important for a soldier in campaign. Keep the body rested by plenty of sleep. Do not join idle parties going to walk the streets of the nearest town at nights, nor sit up late playing cards, nor wander in native towns after dark.

CHAPTER XIV

FIRST AID TO THE SICK AND INJURED¹

143. In offering first aid to a comrade the main things are:

1. Act promptly.
2. Keep cool.
3. Make the patient feel that you have no doubt that you can pull him through all right.
4. Don't let him become discouraged. Pluck has carried many a man through what seemed the most forlorn hope.

In administering first aid proceed as follows:

1. Find out what the real trouble is.
2. Decide promptly what treatment is necessary.
3. Make the patient as comfortable as possible and handle him gently. However, do not handle him unless it will do him a benefit.
4. To facilitate the treatment, remove the clothing, cutting it or ripping it, where necessary.

144. Asphyxiation (suffocation) by Gas. Asphyxiation by gas is treated the same as in the case of drowning, omitting, of course the operation of getting the water out of the body.

145. Belly-ache. See "Cramps."

146. *Bite of dog. } Either requires immediate and heroic
 *Bite of snake. } treatment. *Lose no time.*

1. Prevent the poison from traveling toward the heart and brain by putting on at once a tourniquet between the wound and the heart.

2. Suck the wound and be sure to spit out the poison and rinse the mouth afterward. It is safe, if you have no cuts or sores on the lips or in the mouth.

3. Enlarge the wound with a knife (in the direction of the bone, not across) to make it bleed more freely, and again suck the wound.

4. Apply to the wound any strong acid or caustic, such as carbolic acid, lime, wood ashes or tincture of iodine, or burn it with a hot iron. Telegraph wire will do.

¹ Because of its growing importance, the subject of *First Aid to the Sick and Injured* is treated in this chapter much more fully than in the *Soldier's Handbook*, which covers only wounds, bleeding, fractures, snake bites, rabid dog bites, shock, fainting, poisoning, drowning, sunstroke, burns, freezing and frost bites. In this chapter these subjects are marked with an asterisk (*). They are the only ones about which inspectors usually question soldiers.

5. Wash out the wound with hot water and pack with equal parts of baking soda and salt, and apply a bandage.

6. Then, in the case of a snake bite, loosen the tourniquet little by little, taking about half an hour so as to permit any poison that may remain in the wound to be *gradually* absorbed by the blood. In the case of a dog bite, the tourniquet is loosened at once.

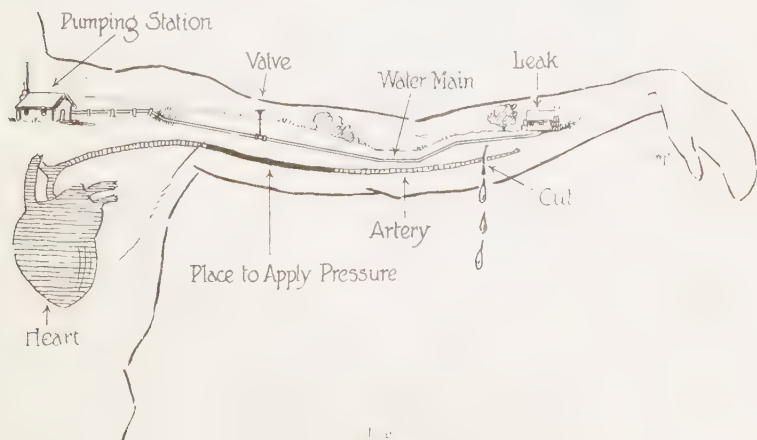
After the tourniquet has been removed, the patient must rest quietly for several hours. If he feel faint, he may have a stimulant,—alcohol, coffee or tea,—*but do not give the stimulant before the poison has been removed from the wound*, because stimulants increase the heart beats and thereby hurry the poison into the blood.

A person bitten by a mad dog must take the Pasteur treatment at the earliest opportunity.

If the dog is not mad (rabid), the wound does not need treatment different from any other kind of a wound.

It is sometimes not possible to decide off hand whether a dog is sick with rabies or has fits from heat,—therefore, when bitten by a dog do not kill him, but chain him up where he cannot bite others and watch him. If he dies, his brain should be examined by a doctor for germs of hydrophobia. If he had hydrophobia, then there is still time for successful Pasteur treatment. If he did not have it, then the patient's mind is much relieved and nothing further need be done.

When bitten by a snake, kill it, if possible, and have it shown to a doctor for examination.



147. *Bleeding. The following comparison between the blood and the water in a city will enable you to understand easily the question of bleeding:

The {water / flows from a pump called {waterworks / through
 {blood / } {heart / }
 {rigid pipes / called {watermains / } When there is {a leak / the {plumber /
 {elastic tubes / } {arteries / } {bleeding / } {doctor / }
 stops the flow of the {water / by {turning a key valve / between the
 {blood / } {pressing the blood tube shut / }
 {waterworks / and the {leak / } and then proceeds to repair the leak
 {heart / } {bleeding cut / }
 {by soldering / } He then turns on the {water / by {opening
 {by sewing or by bandaging / } {blood / } {remov-
 the valve in the water main / }
 ing pressure on the blood tube / }



Fig. 12

Pressure with thumb at 1 checks bleeding of left side of chin, cheek and jaw.

Pressure at 2 stops bleeding from big blood tube on left side of head and neck and face.

Pressure at 3 controls bleeding in the arm pit and shoulder.

Pressure at 4 checks bleeding in arm pit and anywhere down the arm and hand.

Pressure at 5 stops bleeding of arm and hand.

Pressure at 6, on either leg, stops bleeding of leg and foot.

The following diagram shows where pressure with the thumb will squeeze the blood tube between the thumb and the bone.

In addition to the pressure raise the leg or arm or head above the heart. This will slow the flow of the blood and lessen leakage.

However, one cannot hold the thumb forever on the blood tube, so we make an artificial thumb, called a *tourniquet*, which is a pebble or other hard object wrapped in some soft material (to prevent injury to flesh), which is pressed down on the blood tube and held in place by a strip of any material which can be tied so as to keep up the pressure.

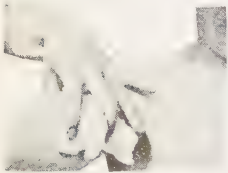
A tourniquet, therefore, is like the valve in a water main.

These diagrams show how a tourniquet is applied.

When no one is around to assist you, sometimes it will be possible to plug the wound in your own body with the first aid packet or with your thumb or handkerchief.



The pebble



The pebble wrapped to protect the flesh



The bandage tied around over the pebble



The bandage twisted tightly by means of a windlass (stick) which is held by another bandage



This shows pressure applied by tourniquet (also called Spanish windlass) instead of the hand and by direct pressure of the First Aid Packet

Fig. 2

When the bleeding is slight, or is from the scalp or palm of the hand, or sole of the foot, direct pressure upon the wound itself with the pad of the first aid package will often be sufficient to stop the leak.



Fig. 3

Bandage to stop bleeding in arm

Nature when left alone stops the leaks with her own solder, called blood-clot, which forms in the cut ends of blood tubes and corks them or seals them up until a scar forms a permanent seal.

When bleeding is inside the body (and unseen), in the chest or belly, we know it first by the evidence of the wound and second by the great paleness and faintness of the patient.



Fig. 4

Bandage to stop bleeding in foot

What should you do for unscen internal bleeding? Let the patient lie flat and notify a doctor. Furthermore, let the patient alone; and don't let others touch him.

Should he be allowed to sit up or move? No. Why? Because it will quicken the heart and increase the leak and so hasten the patient's death.

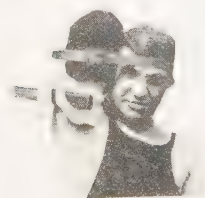


Fig. 5

Arm blown off at elbow

NOTICE:

1. Bandage on stump.
2. Tourniquet below to check bleeding.
3. Arm bent to lessen bleeding.
4. Strap supports arm and also acts as a tourniquet.

If he has fainted, should you revive him with cold water, ammonia, alcohol, hot coffee, slapping the face, etc.? NO. Why? Because all these things will make him bleed to death faster.

Remember, fainting is nature's best remedy, because it slows the leak, quiets the patient and so lessens the bleeding.

In any case of bleeding *never give stimulants until after the bleeding has been stopped*. When the bleeding has stopped get a doctor.

What are the dangers from a tourniquet? First, gangrene, that is, the death of a limb. What causes gangrene? The limb dies from lack of blood, which has been cut off by the tourniquet.

How do you know when to remove the tourniquet in time to prevent gangrene? Watch the toes and finger tips. If they become blue-black and remain white when pinched loosen the tourniquet, but plug the wound first.

What is the other danger? Injury to nerves from pressure which may cause palsy (paralysis). However, that will pass off after a few days.

148. *Broken Bones (Fractures). A broken bone or fracture is known by pain in a particular place that hurts on movement or when touched. Also, by a deformity or a movable lump, caused by the broken end of the bone.

*What is the danger of not handling a broken bone properly? Careless handling may cause the broken ends to pierce the flesh and stick out through the skin. This is called a **compound** fracture, and is serious, because it adds fuel to the fire by making a doorway for*

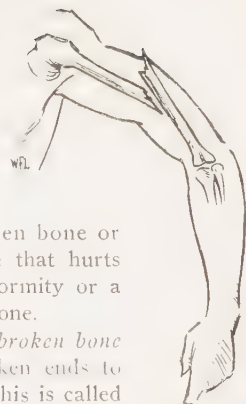


Fig. 6
Compound fracture



Break of UPPER arm bone. Pulling the broken bones out of the flesh and into place



Treatment for break of upper arm bone

1. Padding of grass.
2. Splints put on FRONT and BACK.
3. Splints extended beyond elbow joint.
4. Arm is supported by a sling.



Treatment for break of both bones of lower arm

1. Plenty of grass padding to protect the flesh.
2. The splints are put FRONT and BACK and bound snugly. The hand is included.
3. The whole dressing is held up by a sling.

germs to enter, which may cause death or the loss of the limb. Furthermore, careless handling may make the bones grow together in a bad position, causing a deformity.

The best way to treat a broken leg or arm bone is as above:

Pull until the ends come together. You can tell this by the relief the patient feels and by the limb assuming its proper length,—that is the same length as the other side.

To keep the ends of the bones in place, fasten to the limb two boards or any other substance that will not bend. Such boards or other substance are called *splints*. They act as artificial bones. All splints should be well padded with some soft material like raw cotton, cotton waste, grass (be sure the grass contains no biting insects), leaves, hay or excelsior, to prevent pressure of the soft flesh on the ends of the bones.

When the thigh bone is broken, put a splint from the arm to the ankle and use the other leg as a splint. Fasten them by bandages, belts, gun sling, etc., passed around the chest, waist, hips, knees and ankle.

When an arm is put in a splint, hang the hand and forearm in a sling. It will give much relief.

When the jaw is broken, the upper jaw makes a good splint.

When the collar-bone is broken this makes a good treatment: Fig. 9.

A broken rib is treated by putting a wide strap or bandage around the chest and drawing it tight while all the air is breathed out.

This keeps the rib quiet and the man will breathe with his belly instead of his chest. Fig. 10.

A broken skull usually makes a man unconscious and may cause death. It is recognized by a wound or swelling of the scalp and a



Fig. 8

Points to note:

Plenty of grass between the legs.

Plenty of grass between injured leg and splint.

Splint extends from arm pit to foot.

The other leg is used for a splint.

Plenty of strapping to keep leg quiet.



Broken collar bone

The left collar bone is broken. Therefore, pull BOTH shoulders backward away from the breast bone (same action as for broken arm bone) and hold in position with bandage or straps.



Broken collar bone (left side)

When the shoulders are pulled back then the hand is bound close to the chest high up. This prevents it from flopping and so twisting the broken ends of the collar bone.

Fig. 9

dent in the skull.

A doctor should be called at once. Always examine an unconscious man for injury to the head.



Fig. 10

Treatment for broken ribs, left side

The patient breathes all the air out of the chest and at that moment the strap is buckled tightly. This prevents the broken ends of the ribs from tearing the flesh or the lungs. Notice the roll of shirt which acts as a pad.

as there is water.

149. *Burns. If clothing sticks to the burn, do not try to remove it, but cut around it. Prick blisters at both ends with a perfectly clean needle, and remove the water by gentle pressure, being careful not to break the skin.

A good application for a burn is carbolic acid dissolved in water (a teaspoonful in a pint of water), or tincture of iodine dissolved in water (one teaspoonful in a pint of water, to which is added as much salt as will cover a dime), or olive oil, vaseline or butter.

Lacking the remedies named above, ordinary *baking soda* or flour may be dusted on the unbroken skin, or a cloth dampened with salt water that has been boiled, to which may be added the same amount of whiskey or brandy

Another application for burns recommended by some, is the scraping of a raw potato, renewed when it feels hot.

Different burns should be treated as follows:

Sunburn,—treat with olive oil, vaseline or butter, or with glycerine or witchhazel, applying with a dampened cloth.

Quicklime or lye,—treat with vinegar.

Carbolic acid,—treat with alcohol

Other acids,—treat with baking powder or lime water.

150. Burning clothes, particularly that of women and children, has been the unnecessary cause of many horrible deaths, either from ignorance of the proper means of extinguishing the flames, or from lack of presence of mind to apply them. A person whose clothing is blazing should (1) immediately be made to lie down—be thrown if necessary. The tendency of flames is upward, and when the patient is lying down, they have not only less to feed upon, but the danger of their reaching the face, with the possibility of choking and of ultimate deformity is greatly diminished. (2) The person should then be quickly wrapped up in a coat, shawl, rug, blanket or any similar article, preferably woolen, and never cotton, and the fire completely smothered by pressing and patting upon the burning points from the outside of the envelope.

The flames having been controlled in this way, when the wrap is removed, great care should be taken to have the slightest sign of a blaze immediately and completely stifled. This is best done by pinching it but water may be used. Any burns and any prostration by shock should be treated in the manner prescribed for them.

151. Bruises. The best treatment for a bruise is heat.

A hot brick or a bottle of hot water wrapped in cloth, towels wrung out of hot water, or even an electric light bulb, will give much relief.

However, always remember this: Never put the hot object on the bare skin—always wrap the source of heat in a thick cloth to hold the heat in and at the same time protect the skin. If not practicable to do this wrap the source of heat, then spread a towel over the skin before applying the hot object.

If you use an electric bulb, watch it closely, as it will char and possibly set things on fire.

The above treatment is also excellent for lumbago, stiff neck, and stiff muscles.

A tub bath as hot as you can stand it is fine for refreshing tired, stiff muscles. It is also good for lumbago.

152. Chiggers. Apply kerosene oil. Bacon is also excellent, and so is butter or lard with salt.

153. Choking. Foreign body in the throat. The common practice of slapping the back often helps the act of coughing to dislodge foreign bodies in the windpipe.

If this does not succeed, have the patient lie over a chair with his head down low or hold him as in the first step to revive a drowning person and have him cough. When in either of these positions have some one slap him on the back so as to induce coughing.

The above failing, give him a large amount of warm water with a little salt, mustard or baking soda in it, and then have him put his finger in his throat so as to induce vomiting which will often bring up the obstruction.

In children, and even in adults, the expulsion of the body may be facilitated by lifting a patient up by the heels and slapping his back in this position.

If none of the methods above described are successful, summon a physician, taking care to send him information as to the character of the accident, so that he may bring with him the instruments needed for removing the obstruction.

154. Colds. Put on warm, dry clothing. Wash the nose inside and gargle with hot salt water. Drink freely of hot ginger tea; cover well at night; loosen the bowels.

155. Concussion of the brain is treated the same as in the case of internal bleeding. Keep the patient quiet, lying on his back, with clothing loosened. Get a doctor.

156. Coughing. A hot gargle of salt water, some of it sniffed into the nose, will frequently relieve a cough due to mucous in the throat. A plaster of mustard, flour and vinegar made into a paste, and applied on a piece of cloth on the chest, just below the neck, will relieve a throat cough.

Breathing in steam from a bucket of hot water containing vinegar is good.

157. Cramps. Mix pepper and ginger, or tobasco, or Worcestershire sauce in very hot water and drink. Also, hot ginger ale or hot water containing a teaspoonful of witchhazel is good.

Repeat about every hour.

Apply hot bandages to the belly. A hot stone or bottle of hot water wrapped in cloth, makes a good warmer.

Take a purgative, which will usually expel the offending cause generally too much undigested food.

158. Cuts. Small cuts should be treated with tincture of iodine or washed with alcohol (bay rum or listerine will do) and bandage up. Large wounds may be similarly cleaned and then closed by adhesive plaster.

159. Diarrhœa. Apply warm bandages to the belly. Some woodsmen recommend the following: Fire brown a little flour to which two teaspoonfuls of vinegar and one teaspoonful of salt are added; mix and drink. They claim this is a cure nine cases out of ten. A tablespoonful of warm vinegar and teaspoonful of salt will cure most severe cases. Also, hot ginger ale or hot water containing a teaspoonful of witchhazel is good. Repeat any of the above drinks about every hour.

Take a purgative, which will usually expel the offending cause, generally too much undigested food.

160. Dislocations. The place where two bones come together is called a joint.

When two bones forming a joint are knocked apart, it is called a *dislocation*, and the bones are said to be *out of joint*.

The first sign of a dislocation is the accident.

The second sign is immediate interference with the motion of the joint and awkwardness in using the limb.

The third sign is deformity of the joint,—it looks queer when compared with the same joint on the other side.

The diagrams (Fig. 11) show the usual methods of replacing dislocations.

If you are unsuccessful after trying several times to replace a dislocation, get a doctor.

If no doctor is available, make the man sick by having him drink some warm salt water and then put his finger in his throat.

When he vomits the muscles and ligaments (tissue connecting the joints) will relax and you may be able to get the bone back in place.

After replacing the bones put the joint at rest with a large compress and bandage.

When uncertain as to whether you have to deal with a broken bone or a dislocated joint, give treatment for a broken bone, because rest and quiet for the injured part are good in either case.

161. *Drowning. Rescuing. Approach the drowning man from behind, seising him by the coat collar, or a woman by the back hair, and tow at arms length to boat or shore. Do not let him cling around your neck or arms to endanger you. Duck him until unconscious if necessary to break a dangerous hold upon you; but do not strike to stun him.

A drowning person *does not* come to the top three times before giving up.

To put the arm bone back into the shoulder socket



1ST MOVE

Rest your weight at elbow, pushing downward until the muscles at the shoulder are tired and will stretch.



2ND MOVE

Swing the elbow across, close to the chest, and place the hand on other shoulder.



3RD MOVE

Keep the elbow close to the chest and bring the hand forward as if held out for a penny. This should twist the bone into the socket.

Relocating the jaw



When the jaw bone is out of place, the man cannot shut his mouth.

Put both thumbs (protected by a handkerchief) on the lower teeth and with the forefingers at the angles of the lower jaw push down in the back of the jaw.

Relocating thumb



When the thumb bone is dislocated it must be PUSHED into place—not pulled.

Relocating finger



Pull the finger bone back into place.

Fig. 11

Reviving. When a person is apparently drowned he is unconscious and not breathing because his lungs are full of water and his skin is blue and cold because no air is getting into his blood to redden it

and warm it; *remember* the heart does not stop until some time after the breathing stops. If we can get air into the blood and start breathing again before the heart stops we can save the patient's life. If we cannot get the breath started in time the heart stops and the patient is then dead.

Our problem then is this:

1. To get the water out of the lungs.
2. To get the air into the lungs and start the man breathing before the heart stops.

Emptying the lungs is precisely similar to emptying a bottle.

The lungs are the bottle, the wind-pipe is the neck of the bottle and the cork of the bottle may be the tongue turned back in the throat or mud and leaves from bottom of the pool and bloody froth in the nostrils. We therefore—

1. { Pull out the cork.
/ Remove mud, mucus, etc., and pull the tongue forward.



Fig. 13

Pulling out the cork

2. { Turn the bottle neck down to pour out the contents.
/ Place the patient's head lower than his chest so the water will run out.



Fig. 14

Then lay the patient on a blanket, if possible, and on his stomach, arm extended from his body beyond his head, face turned to one side so that the mouth and nose do not touch the ground. This position causes the tongue to fall forward of its own weight and so prevents it from falling back into the air passages. Turning the head to one side prevents the face coming into contact with mud or water during the operation.

Kneel and straddle the patient's hips, facing his head.

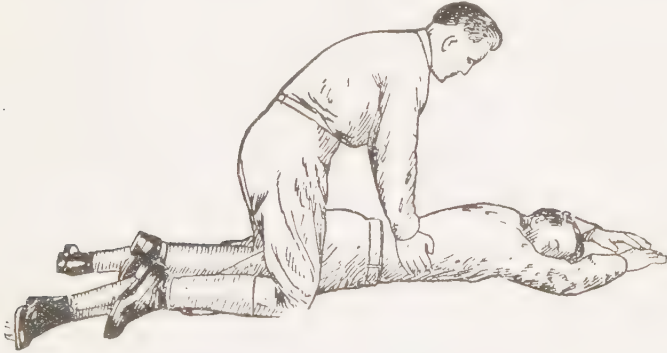


Fig. 15

Roll up or rip off the clothing so as to get at the bare back.

Locate the lowest rib, and with your thumbs extending in about the same direction as your fingers, place your spread hands so that your little finger curls over the lowest rib. *Be sure to get the hands well away from the back bone*,—the nearer the ends of the ribs the hands are placed without sliding off, the better it is.

Then with your arms *held straight*, press *down SLOWLY AND STEADILY* on the ribs, bringing the weight of your body straight from your shoulders. *Do not bend your elbows and shove in from the side.*

Release the pressure suddenly, removing the hands from the body entirely, and thus allowing the chest to fill with air.

Wait a couple of seconds, so as to give the air time to get into the blood. This is most important.

Repeat the pressure and continue doing so, slowly and steadily, pressing down at the rate of ordinary breathing. That is to say, pressure and release of pressure (one complete respiration) should occupy about five seconds. Guide yourself by your own deep, regular breathing, or by counting.

Keep up for at least one hour the effort to revive the patient; and much longer if there is any sign of revival by way of speaking, breathing, coughing, sneezing or gurgling sounds.

Do not stop working at the first signs of life, but keep it up until the patient is breathing well and is conscious. If you stop too soon he may stop breathing and die.

Persons have been revived after two hours of steady work, but most cases revive within about thirty minutes.

If you are a heavy man, be careful not to bring too much force on the ribs, as you might break one of them.

In the case of women or thin persons place a roll of clothing under them at the waist line before beginning the pressure.

If you happen to be of light build and the patient is a large, heavy person, you will be able to apply the pressure better by raising your knees from the ground, and supporting yourself entirely on your toes and the heels of your hands, properly placed on the floating ribs of the patient.

Do not attempt to give liquids of any kind to the patient while he is unconscious, for he cannot swallow them. They will merely run into his windpipe and choke him, and, furthermore, it will take up valuable time.

However, after the patient has regained consciousness you may give him hot coffee or hot whisky, punch or aromatic spirits of ammonia (a teaspoonful in water).

Then wrap up the patient warmly in hot blankets with hot water bottles, and take him to the nearest hospital or put him to bed and send for a doctor. Why? Because the dirty water in the lungs has damaged the lining and the patient is in danger of lung fever and needs care and nursing.

Aromatic spirits of ammonia may be poured on a handkerchief and held continuously within about three inches of the face and nose. If other ammonia preparations are used, they should be diluted or held farther away. Try it on your own nose first.

The above method of artificial respiration is also applicable in cases of electric shock, suffocation by gas and smoke.

162. Drunkenness. Give large doses of vinegar and water to which some ammonia has been added. Taste before giving. If too sour, add ammonia; if too much ammonia, add water.

Aromatic spirits of ammonia,—a teaspoonful in half a cup of water, repeated every fifteen minutes, is also a good remedy.

Cause vomiting by tickling the throat with the finger.

Follow by a hot sweat bath and forced exercise.

A cup of hot coffee after vomiting will aid to settle the stomach and clear the mind.

Cold water dashed into the face or a cold shower has a sobering effect.

163. Earache. Put a teaspoonful of salt into a quart of water and add 6 teaspoonsful of tea. Boil it. As soon as it is cool enough to stand the finger, drip some into the nostrils until it falls into the throat. Clear out the nose and throat by sniffing,—*do not blow* the nose,—and then gargle with the rest of the remedy as hot as can be taken, holding each mouthful well back in the throat. This will often open up the tubes running from the ears to the throat, and relieve the pressure against the ear drum. In addition, a little hot oil may be dropped into the ear. Repeat the treatment in one half an hour if not successful first time.

164. Ear, foreign body in. Lay the head over, with the affected ear up, and pour in some warm oil or soap suds. This will float the thing up, unless it be a vegetable such as a grain of corn or a bean. Turning the affected ear down and then jumping, jerking the head, or pounding it gently, may dislodge it.

A little peroxide of hydrogen poured into the ear will often dislodge the substance, especially if it be wax.

In case of an insect, a bright light held near the ear will often cause it to leave the ear to go to the light.

165. Electric shock. Failure of respiration following an electric shock by lightning or live wire is treated the same as in the case of drowning, omitting, of course, the operation of removing the water out of the lungs.

Do not try to pull a man away from a live wire until you have put on rubber overshoes or gotten a *wooden* stick with which to get the wire away from him. Otherwise you will yourself get a shock.

166. Eye, foreign body in. Close the eye for a few moments and allow the tears to fill the eye; upon opening it, the body may be washed out by them.

Never rub the eye.

The foreign body can often be removed by keeping the eye open with one hand and splashing water into it with the other, or by dipping the eye into clean water while holding the eyelid open with the hand.

If the body lies under the lower lid, make the patient look up, and at the same time press down upon the lid; the inner surface of the lid will be exposed, and the foreign body may be brushed off with the corner of a handkerchief.

If the body lies under the upper lid, (1) grasp the lashes of the upper lid and pull it down over the lower, which should at the same time, with the other hand, be pushed up under the upper. Upon repeating



Fig. 16

this two or three times, the foreign body will often be brushed out on the lower lid.

(2) If this fails, the upper lid should be turned up; make the patient shut his eye and look down; then with a pencil or some similar article press gently upon the lid at about the middle, and grasping the lashes with the other hand,



Fig. 17

turn the lid up over the pencil, when its inner surface will be seen, and the foreign body may readily be brushed off.

If the body is firmly stuck in the surface of the eye a careful attempt may be made to lift it out with the point of a needle. If not at once successful, do not try again, as you may injure the sight.

Lime, plaster or whitewash in the eye should be washed out with a very weak mixture of vinegar and water. Acids in the eye may be washed with baking soda in water. Olive oil will also afford relief.

After the removal of a foreign body from the eye, a sensation as if of its presence often remains. People not infrequently complain of a foreign body when it has already been removed by natural means. Sometimes the body has excited a little irritation, which feels like a foreign body. If this sensation remains over night, the eye needs attention, and a surgeon should be consulted; for, it should have passed away, if no irritating body is present.

After the removal of an irritating foreign body from the eye, salt water should be poured into it, then butter, lard or olive oil may be used for a salve.

167. Eyes, sore or inflamed. If possible, see a doctor at once. If none be available, add to a quart of water a heaping teaspoon of salt and six of tea (preferably green tea), and boil for five minutes. While still hot bathe the eye every half hour, then bathe every hour for several hours. If the eye remain red after relief is obtained, make the eyewash ice cold.

Another remedy is to bind on cloth soaked with witchhazel and leave on over night. Wash well in morning with warm water.

168. Famishing. Do not let a starved person eat much at a time. Prepare some broth, or a gruel of cornmeal or oatmeal thoroughly cooked, and feed but a small spoonful, repeating at intervals of a few minutes. Give very little the first day, or there will be bloating and nausea.

169. Fatigue, excessive. Take a stimulant, or hot drink when you get to camp (but not until then), and immediately eat something. Then rest between blankets to avoid catching cold.

170. Feet, sore and blistered. Blisters should be pricked and the water let out, but the skin must never be removed. Adhesive plaster on top of the blister will prevent the skin from being pulled off.

In case of sore or blistered feet, considerable relief can be obtained by rubbing them with tallow from a lighted candle and a little whiskey or alcohol in some other form, and putting the socks on at once.

A little alum in warm water is excellent for tender feet.

171. Fevers. See the doctor.

172. Fish Hook. If a fish hook gets caught in the flesh, push it on through and when the end sticks out, break off the hook and pull it out the other way. Put tincture of iodine on the wound and bandage.

173. Fits. The man falls over suddenly unconscious in a convulsion, which continues until he is blue in the face, when he gradually quiets down and regains consciousness. He is liable to injure himself by the fall and by biting his tongue. Put a stick or cork between his teeth and let him lie quietly undisturbed. Don't try to hold him down or make him sit up. He will come to no harm on the floor and you cannot stop the fit. Ammonia on a handkerchief held under the nose to smell will assist reviving consciousness. Put him in the hospital at once.

174. *Fracture. See, "Broken Bones."

175. *Freezing. If a man is overcome by the cold, do not take him into a warm room, or heated tent. Put him into a cool room without draughts and get a doctor at once. Meanwhile loosen his clothing and rub arms and legs towards the heart with cold water and a towel or sponge, using pressure.

When he revives give him hot drinks and wrap him up well in hot blankets and put him in the hospital.

When freezing to death a man feels overcome with sleepiness and stupor. Take a switch or stick and beat him unmercifully. Remember that falling to sleep means death.

176. *Frostbite. The best way to get frost-bitten is to have on damp clothing, such as wet shoes and socks or mittens. The first feeling of frost bite is numbness, and the first sign is marble whiteness.

Treatment. Rub the frozen part briskly with snow or ice cold water, if the frost-bite has just occurred. If it has been frozen more than fifteen minutes, *rub very gently* with snow, cold water or coal oil (kerosene). If you rub hard, it will break the frozen flesh.

Returning pinkness is a sign of thawing; if the parts turn a dark color, see a surgeon at once for it means gangrene (death of the flesh).

When thawed out apply plenty of oil, tallow or vaseline.

If gangrene has set in and no doctor is available, then treat as a burn.

By all means keep away from heat. To toast frostbitten fingers or toes before a fire is liable to result in chilblains.

177. Headache. Among troops headache is usually due to intestinal indigestion, combined with a congestion of the stomach. Take a tablespoonful of Worcestershire sauce or 5 drops of tobasco sauce in a tumbler of hot water as a drink and put a small piece of soap up into the bowel to cause a movement.

178. Head, how to keep cool. By placing wet, green leaves inside of hat.

179. Heat exhaustion. The man falls out in a faint while marching, or on fatigue or parade. He looks pale, his body is clammy and cold, his breathing is sighing and heart fluttering. *What is the matter?* His heart is weak from poisons in the blood, usually alcohol, but often too much carbonic gas and too little oxygen. This occurs when men are soft-muscle; so, young soldiers, recruits and fat soldiers and especially those who drink alcohol, use drugs or smoke or chew tobacco while hiking, are the first to have it.

Treatment. Loosen the man's clothing, remove his pack, lay him on his back in the shade, with head and shoulders lower than his hips and raise his feet in the air. This will make the blood flow to the heart and brain. If he has fainted, slap the bare chest with the hand or a wet towel and briskly rub the arms towards the heart. If he does not revive, apply hot bottles, or bricks to the chest and abdomen, and ammonia to the nose, as a smelling salt. Do not give stimulants until he is conscious. He should ride in the ambulance, or go to the hospital.

180. Heart burn or	}	A tablespoonful of Worcestershire sauce,
indigestion.		
Hiccoughs.		

or 5 drops of tobasco sauce in a tumbler of water.

181. Itch. When due to insects or vermin, use soap, hot water, and kerosene oil as a wash.

182. Ivy poison can be relieved with a cloth soaked with baking soda and water or with lime water.

183. Lightning. A man struck by lightning is treated the same as in the case of drowning, omitting, of course, the operation of getting the water out of the lungs.

184. Lumbago. Same as treatment for bruises.

185. Needle. When a needle gets lost in the flesh, push it on through. Put tincture of iodine on the wound.

186. Nose, foreign body in. If it cannot be sneezed out, lean the head back and pour a little oil into the nostril. Then snift and blow the nose alternately. If this is not successful, take a lead pencil and try to push the object straight back into the throat. This must be done very gently.

187. Piles. Put a little piece of ice in the lower bowel and hold it against the piles. See a doctor.

188. *Poison. When poison has been swallowed, cause the patient to take a large quantity of luke-warm water and make him vomit by putting his finger in his throat. Repeat this and then have him swallow the white of two eggs or some milk into which raw flour or corn-starch has been stirred.

If you know he took bichloride of mercury, you may increase the amount of eggs and give one-half glass of weak lime water.

If you know he took carbolic acid, give him alcohol (pure alcohol or in the form of gin or whiskey) and plenty of it in order to neutralize the acid.

Get a doctor as soon as possible, and save the vomit, and poison not taken, for him to see.

189. Poultices. Poultices may be used instead of hot towels for bruises, felons, boils, carbuncles, muscular rheumatism, lumbago, stiff neck, etc. They are easily made of cornmeal or oatmeal. Mix by adding a little at a time to boiling water and stirring to a thick paste; then spread on cloth. Renew from time to time as it cools.

To prevent a poultice from sticking, cover the under surface with clean mosquito netting or smear the skin with oil.

190. Rheumatism. Same as for bruises.

191. Scalds. Apply at once common baking soda or olive oil and cover with a bandage. To sprinkle with flour is also good.

192. Scratches of cats and other animals. Apply tincture of iodine or wash with soap and water.

193. *Shock. In case of collapse following an accident, treat the accident; then treat as for fainting. Apply hot plates, stones or

bottles of hot water, or an electric light wrapped in towels over the stomach. Wrap up warmly. Keep the patient quiet, in the dark, and send for a doctor.

194. Snow or sun blindness. Smear the nose and face about the eyes with charcoal, and wear a cloth over the face with small holes for the eyes.

195. Sore throat. Gargling with hot strong tea or hot water and salt is often effective.

Listerine diluted in water and used as a gargle is also good. Peroxide of hydrogen is a good gargle.

196. Spider bite. Apply a cloth dampened with alcohol or weak ammonia and water.

197. Suffocation by gas. See "Asphyxiation by gas."

198. Sprains. The regular medical treatment is to plunge a sprained ankle, wrist or finger, into water as hot as can be borne at the start, and to raise the heat gradually thereafter to the limit of endurance. Continue for half an hour, then put the joint in a hot wet bandage, reheat from time to time, and support the limb in an elevated position,—the leg on a chair or stool; the arm, carried in a sling. In a day or two begin gently moving and kneading the joint, and rub with liniment, oil or vaseline

As a soothing application for sprains, bruises, etc., the virtues of witchhazel are well known.

199. Stiff neck and stiff muscles. Same treatment as bruises

200. Stings. Stings of bees, jelly fish and other stinging animals are treated with a very weak solution of ammonia in water applied as a lotion. Or apply a very weak solution of carbolic acid in water, a strong solution of baking powder, a slice of crushed raw onion, a moist quid of tobacco, witchhazel, listerine, or a paste of clay.

Before applying any of these remedies, extract the sting, if left in the wound. Also, work out as much of the poison as possible by massaging and sucking the wound.

201. Sun-burn. Treat with witchhazel or listerine or vinegar well diluted with water.

202. *Sunstroke. In sunstroke the man has a blazing red face, dry, burning hot skin; agitated heart; snoring breathing; a high fever, and is unconscious and delirious. *What is the matter?* The part of the brain which regulates the heat of the body is overcome by the heat and loses control,—the man is entirely too hot all the way through.

Treatment. First of all remove the pack and shoes and loosen the clothing. Then souse the man, clothing and all, with water.

Lay him in the shade and fan him, keeping him covered and wet. This will cool him off without chilling too much. If possible, rub the chest and legs, but not the belly, with ice.

203. Ticks. Do not pull them off when biting as it will leave the head in the flesh. Apply kerosene oil on a pad. It will make them drop out.

204. Thirst. Allow the sufferer only a spoonful of water at a time, but at frequent intervals. Bathe him if possible.

To quench thirst in the field. Don't drink too often. It is better to rinse out the mouth often, taking a swallow or two only. A pebble or button kept in the mouth will help quench that dry and parched tongue.

205. Toothache. Hold warm vinegar and salt in mouth around the tooth until the pain ceases, or plug the cavity with cotton, mixed with pepper and ginger.

206. *Wounds. Wounds may be made in every degree of size, from the jab of a splinter to the loss of a part of the body from shrapnel.

No matter what form of the wound or the cause, we know the following fact to be of the utmost importance: A wound without germs in it will heal rapidly without pain, redness, heat, or pus and the patient will have no fever. He will eat his regular meals and act as though well.

Such wounds we see made by surgeons when operating. On the other hand, wounds infected with germs are painful, hot, angry, red, and swollen and form large quantities of pus or matter.

What is pus? Pus is a mixture of germs, blood and the flesh that they have destroyed. This pus prevents wounds from healing and often burrows under the skin, forming abscesses which cause fever and chills, and the pus enters the blood causing delirium and death.

Our one aim in treating wounds is to keep out germs.

How do we do it?

With the first aid packet.

The first aid packet consists of two gauze compresses sewed to two cotton band-



Fig. 18

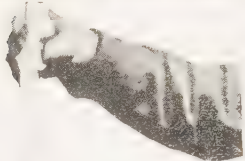
First Aid Packet

After the removal of packet from tin can, open the wax paper and hold the package as shown.

1. Left hand holds the wax paper.

2. Right hand holds the bandage.

ages. They are sealed in wax paper. There are also two safety pins wrapped in wax paper. These articles are placed in an air-tight metal case which protects them from contamination.



Now, the one important fact about this first aid packet is that the bandage compresses and safety pins have been *sterilized*,—that is, they contain no living germs of any kind. It is, therefore, perfectly safe to put on a wound, *provided the pad touches the wound before it touches anything else and provided that the wound has not been handled*. Therefore, do not wash a fresh clean wound.

CAUTION. Have the wound ready before you open the packet. Do not touch the gauze pad with **ANYTHING**. Do not breathe on it, and be especially careful not to cough or sneeze over it. These things put germs on it which will grow in the wound.

By observing these instructions you may save a man's life. By not observing them, you may cause his death, or cause him much pain and suffering.

The life of a wounded man is often in the hands of the first one who attends him.

It is said that since the adoption of the first aid packet by armies, it has done more than everything else to save the lives of those wounded in battle by preventing the infection of wounds.

Fig. 19

First Aid
Packet

*Shake out
packet with
right hand so
that the pad
(or compress)
does not touch
anything until
placed on the
wound.*

In an emergency a pad from any kind of cloth may be boiled for ten minutes to kill the germs, the water drained off to allow it to cool, and then placed on the wound. Or, the pad may be held over a clear fire until it is fairly scorched; then let it cool. A little charring of the surface will do no harm. Any kind of bandage may then be used to hold it in place.

When a bullet strikes a man first, the wound is clean cut and germ free and it will heal rapidly. If, however, it strikes something first, and bounces off (ricochets) and then strikes a man, it will be knocked into an irregular shape and, therefore, cause a ragged wound with much bruising. What is more important, such a bullet will carry germs into the wound from the object struck, and almost surely some shreds of clothing.

When a wound is infected it is extremely difficult to kill the germs (disinfect.) Such a wound, before applying the first aid dressing

should be painted with a tincture of iodine, or alcohol or be well washed with boiled salt water.

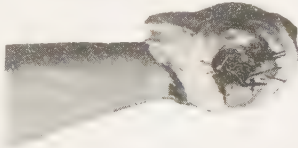
The following illustrations show various applications of the first aid packet:—

Bandage to wounds of head



1. Place pad on wound.
2. Encircle greatest thickness of the head by the bandages.
3. When the bandages pass above the ear turn and go in the right angle direction. Put on as if tying up 5 lbs. sack of sugar.

Bandaging palm or hand



1. Put pad of the first aid packet on the wound.
2. Place a large ball of grass or other substance over pad, which is grasped by the hand.
3. Bind bandage tightly over the fist.

Bandage to wounds of breast



Bandage to wound of (right) arm-pit



The pad of the bandage is placed on the wound of the breast and the ends form a figure 8 of both shoulders and tie in front. A shirt pulled over and pinned to the pad will fix it.

Apply as shown

Fig. 20

A suspensory bandage made from the two bandages of the first aid packet, or any other two bandages.

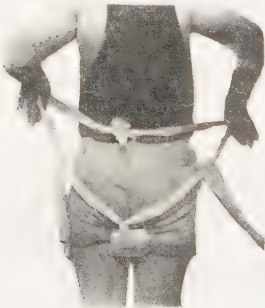


Making the knots

(Note well where the knots are made)



1st step in applying the bandage



2nd step

Pass the loose ends between the legs and then through the loops on each side



3rd step

Catch hold of the loose ends and after the pad is adjusted to the injured spot, tie them in front like a belt

Fig. 21

207. The illustrations below show improvised litters.



Litter made of one-half shelter tent, three shelter tent pins and one tent or other pole



Litter made of two poles, two coats and one belt. The coats are buttoned and the sleeves turned inside out, the poles being run through the sleeves. The belt is used as a head rest



The coat litter in use

Fig. 22

[229]

CHAPTER XV

INFORMATION AND SECURITY

SCOUTING

208. Object. The object of scouting is twofold:

1. To get information about the enemy.
2. To get information about the country.

This information to be of any value must be *accurate*. Inaccurate information is misinformation, and misinformation is worse than no information at all.

209. Observation. In passing through the country always *be thinking* how, on one hand, the enemy might at any moment use to advantage against you the various features (hills, woods, etc.) you see, and, on the other hand, *be thinking* how you might at any instant use them to advantage against him. For example, be on the lookout for gulleys, hills, hedges, buildings, woods, etc., in which an enemy might hide and lie in wait for you, or in which you might hide and be in wait for an enemy passing along a near-by road.

When walking along a road, notice whether it is good or bad, whether it is easy or hard to march on, whether it is suitable for wagons, etc.

When crossing a bridge notice the material of which it is made, whether it is weak or strong, whether wagons and horsemen could cross it.

If fording a stream, take notice of the ford and its banks to see if the bottom is hard, muddy, or rough, and whether the banks are steep, sloping, muddy, or firm.

A good scout overlooks nothing, neglects nothing. He notices and *studies* everything, natural or artificial, that comes into his path, remembering that hills, valleys, streams, woods, villages, bridges, railroads, wagon roads, and trails, all have some military value, and that he is to notice and *study* them with such care that he can later describe them *accurately* to the commander who sent him out in search of information.

210. Orientation. Always keep oriented—always keep track of your movements. In other words, always know where “you’re at.”

A scout must never for a moment lose himself. He must be able at all times to find his way about—forward, backward, sideward,

in any direction—without the least hesitation. This is called, "Orientation."

211. How to keep oriented.

The following rules will tell you how to orient yourself and then stay oriented:

1. Before leaving, see where you are with respect to certain prominent objects—mountains, woods, etc., that can be seen to your rear, front, and side. Pick out near camp some prominent object like a church steeple, tower, large tree, or mountain that can be seen from a distance, and keep this in sight as long as possible. Before you lose sight of this first object, pick out another one, and keep your direction from the second

2. After starting, turn your head around frequently and see what the starting point looks like with respect to the prominent objects in question. In other words, *frequently get a line on the direction from camp*. This will enable you to find your way back without the least difficulty, by some other road or across country.

3. As you advance along the road—as you move from point to point—always observe everything around you, paying particular attention to objects near crossroads or forks, and to unusual looking objects. Observe these objects not only from the direction in which you are advancing, but also look at them after you have passed them, so that you will remember how they look from that direction. Should you return by the same road, this will enable you to follow the right route without trouble.

In observing objects as you move along, always say this to yourself: *I am determined to remember all these objects, so as to be able to describe them and the country accurately to my commander when I rejoin the command.*

212. Returning by different route. Unless there is some good reason for returning by the same route, take another road back. The reasons for this are two:

1. It will enable you to see more of the country.

2. Parties of the enemy who may have seen you on your way out or who may have gotten information about you from inhabitants of the country, may be lying in wait for your return. General Grant states in his *Memoirs* that he always made it a rule when traveling in hostile country never to return by the same road, and he relates how on a certain occasion during the Vicksburg campaign this saved him from being captured by a Confederate patrol that was lying in wait for him.

213. Signs. A scout must be able to tell a great deal from a very little. While you may not see the enemy, you will often be able to find

signs of him, which, if you know how to read them, will give you lots of valuable information. The following are "tell-tale" signs:

Evenly trodden ground indicates that infantry has passed; prints of horseshoes mean cavalry, and deep and wide wheel tracks indicate artillery. If the trail is fresh the column passed recently; if narrow, the troops felt secure and were marching in column of route; if broad, they expected an action and were prepared to deploy. A retreating army makes a broad trail across fields, especially at the start.

A discarded canteen might give valuable information, proving, for example, to the commanding general that a certain hostile division or other force was in front of him when he thought it was elsewhere.

By their freshness camp fires indicate whether much or little time has elapsed since the enemy left the place, and the quantity of cinders will give an indication of the length of time he occupied it. The number of camp fires will furnish a means of estimating the approximate strength of the enemy, about ten men being allowed to each fire.

Dead horses lying about, broken weapons, discarded equipment, broken-down wagons, etc., are indications of the fatigue and demoralization of the command. Bloody bandages lying about, and many fresh graves are evidences that the enemy is heavily burdened with wounded and sick.

214. Concealment. "Seeing without being seen" should be the motto of every scout. Think of every place around you as a possible lurking place for the enemy and at all times try to keep yourself concealed as much as possible. Do not neglect these simple rules:

1. Keep out of the open. As far as possible move from place to place along the edge of woods, along hedges, fences, or streams, or under the crests of hills. If necessary to move in the open, do so rapidly, without stopping to make observations. Wait until some kind of concealment is reached before stopping for any purpose.

2. As a rule, do not travel along roads. Keep off to one side of them, under cover from which the road may be observed. If forced to move along a road, walk on one side of it, along the fence or hedge, never in the middle.

3. When stopping to observe, be absolutely motionless. A moving object attracts more attention than a motionless one. At a distance, a motionless man may be mistaken for a rock or stump.

4. Be careful in picking out places from which to observe. Do not stand on hill tops. Lie down and look over.

5. Be careful about climbing trees or going up in towers. An enemy may tree you.

6. Also, be careful about entering houses and looking out of windows. As a rule, it is better to climb up on the roof.

7. Be careful not to stop near any background that will make your clothing stand out.

215. What to do if lost. First of all, don't lose your head—keep cool—try not to let your brains get into your feet. By this we mean don't run around and make things worse, and play yourself out. To begin with, sit down and think; cool off. Then climb a tree, or hill, and endeavor to locate some familiar object you passed, so as to retrace your steps. If it gets dark and you are not in hostile territory, build a good big fire. The chances are you have been missed by your comrades and if they see the fire, they will conclude you are there and will send out for you. Also, if not in hostile territory, distress signals may be given by firing your rifle, but don't waste all your ammunition.

If you find a stream, follow it; it will generally lead somewhere—where civilization exists.

The tendency of people who are lost is to travel in a circle uselessly.

Remember this important rule: *Always notice the direction of the compass when you start out, and what changes of direction you make afterwards.*

PATROLLING

216. Definition. Patrolling is nothing more or less than scouting by a number of men, working together under a leader, and what has been said about scouting applies, in the main, to patrolling.

A patrol may be said to be a detachment of men sent out from a command to—

1. Get information about the country;

Or,

2. Get information about the enemy;

Or,

3. Prevent the enemy from getting information about us.

As a rule, a patrol does all these three things, but quite frequently a patrol is sent out to do one or two of them in particular, the rest then being only incidental. Just exactly what a patrol is to do depends on the orders its leader receives from the commander sending out the patrol.

217. The leader. The leader is responsible for the work of the patrol. He is told *what* to do and it is up to him to find the way of *how* to do it. He uses the other members of the patrol to help him.

218. What the leader should always know. The patrol leader should always know—

1. His mission—that is, just exactly what he is being sent out to do. He must always have this clearly fixed in his mind. If there is any doubt at all about it, he should remove all doubt by inquiry of the commander sending him out.

2. Where he is to go, and by what route, or routes, if any in particular.

3. When he is to return, and by what route, or routes, if any in particular.

4. If the command is on the move, where he is to rejoin it.

5. The general location of his own forces, particularly of those with whom he may come in contact.

6. All the information he can get before starting out about the enemy and the country.

7. Where messages are to be sent.

If there is any doubt in his mind about any of the above, he should remove such doubt before starting by asking questions of the commander who sends him out.

219. What the leader should always take along. In addition to his arms and ammunition, the patrol leader should have—

1. A compass.

2. A watch.

3. A field message book or a notebook, and a pencil.

4. When practicable, a map of the country that he is to go over.

220. What the leader should do before starting. Before starting assemble the patrol and—

1. Inspect their arms and ammunition and satisfy yourself that they are in proper condition.

2. See that no man has anything that glistens or that rattles when he moves.

3. Assure yourself that no one has any papers or maps that would be of value to the enemy if captured.

4. See that all canteens are filled.

5. Explain the signals to be used and satisfy yourself that they are understood.

(The following signals are amongst those most commonly used:

Enemy in sight in small numbers: Hold the rifle about the head horizontally.

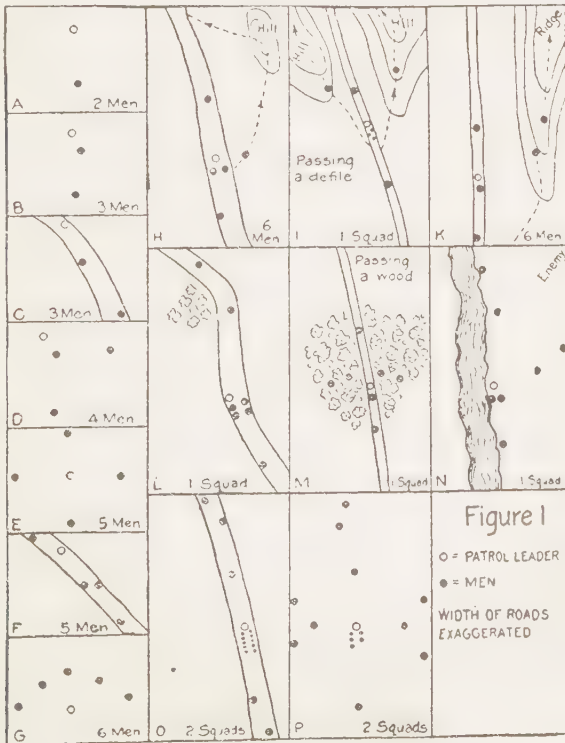
Enemy in force: Same as preceding, raising and lowering the rifle several times.

Take cover: Downward motion of the hand.

Whatever signals are agreed upon before starting should be simple: complicated signals must be avoided. In connection with the use of signals, it may be remarked that the patrol leader should see that all his men distinctly understand that whenever they are away from the center of the patrol they must be on the constant lookout for signals. It should never be necessary for the patrol leader to call to a man in order to get his attention. All movements of men at a distance must be regulated by signals and the men must be on the constant lookout for these signals.)

6. Designate a man to take your place should you be disabled.

7. Give instructions as to what the patrol is to do if scattered, and, if practicable, decide beforehand upon some place of assembly in such event.



8. Repeat to the patrol your instructions and assure yourself that every man understands them.

221. Formation. The formation to be adopted by the patrol will, as a rule, depend upon three things:

1. The size of the patrol.
2. The nature of the ground traversed.
3. The mission of the patrol—that it, what it was sent out to do.

However, always adopt a formation that will render probable the escape of at least one man should the patrol be captured. This man is called “the get-away man.”

In general, a patrol should have the formation of a main body with advance, rear, and flank guards, though each be represented only by a single man.

However, quite often flankers are omitted. For example, a patrol may have to march a long distance before it is expected that the enemy will be encountered, or it may have a mission that requires it to hurry to some distant point through very dangerous country. In such cases the patrol will probably have to follow the road to make the necessary speed, and it will not be possible for flankers to keep up this rate marching off the road. The formation in such cases would be something like those shown in, F, H, and O, in the illustration on the preceding page.

Marching off the road is always slow work, so when rapidity is essential, some safe formation for road travel is necessary, as in F, L, and O.

If, from the road the country for, say one-half mile on each side, can be seen, there is absolutely no use in sending out flankers a few hundred yards from the road. Use common sense.

Again, at times a column of files, separated by proper distances, is a satisfactory formation, and, again, if the patrol is a combat patrol and you have reason to believe that you may be fired on at any moment, then a line of skirmishers would be a suitable formation.

The figures on the preceding page give some examples of various ways of forming patrols, but remember that they are only *types* and that in practice common sense, based on the particular conditions that confront the patrol leader at that particular time, must in each case dictate to him the best formation to be used.

Figure G shows a formation that might be used in going through high brush, woods, or over very open country.

222. Position of leader. In very small patrols the leader is usually in advance where he can easily lead the patrol, although this is

not always the case, as a study of the figures on the preceding page will show. The leader takes that position which, under the conditions and circumstances existing at the time, will enable him best to control and observe his patrol.

223. Distances between members of patrol. The distances between the members of a patrol depend upon the character of the country, the size of the patrol, and the situation. In open, flat country, for instance, they would be much greater than in a broken or wooded country. It must be remembered that if the members of a patrol are too close together they can see no more than one man, and, on the other hand, if too widely separated, the leader is likely to lose control of them.

224. What the leader should do after starting.

1. If passing out through an outpost line, notify the nearest outpost of where you are going, about when you will return, and by what route, and get from such outpost any information it may have about the enemy and the country to the front.

2. As the patrol moves along, study the country ahead of you, looking for places which should be searched and for points from which to observe, if necessary sending members of the patrol to this point or that point, and telling them what to look for and where to rejoin the patrol.

225. Halts. Unless there is some special reason why it should not be done, a patrol should be halted once every hour for about ten minutes, to allow the men to rest and relieve themselves. Whenever a halt is made be sure to see that one or two men advance a short distance ahead and keep a sharp lookout to the front and flanks. Failure to do this has brought more than one patrol to grief.

226. Action upon meeting hostile patrol. If you should see a hostile patrol, it is generally best to hide and let it go by, and afterwards look out for and capture any messenger that may be sent back from it with messages for the camp or main body. And when sent back yourself with a message, be careful that the enemy does not play this trick on you—always keep your eyes and ears open.

227. Guard against being cut off. When out patrolling always guard against being cut off. Always assume that any place that affords good cover is held by the enemy until you know that it is not, and be careful not to advance beyond it without first reconnoitering it; for, if you do you find yourself cut off when you try to return.

228. Night work. Patrols far from their commands or in contact with the enemy, often remain out over night. In such cases they seek a

place of concealment unknown to the adversaries, proceeding thereto after nightfall or under cover. Opportunities for watering, feeding, and rest must not be neglected, for there is no assurance that further opportunities will present themselves. When necessary, the leader provides for subsistence by demand or purchase.

229. Civilians. In questioning civilians care must be taken not to disclose information that may be of value to the enemy. Strangers must not be allowed to go ahead of the patrol, as they might give the enemy notice of its approach. Patrol leaders are authorized to seize telegrams and mail matter, and to arrest individuals, reporting the facts as soon as possible.

230. Patrol fighting. Whether or not a patrol should fight depends upon its mission—the thing it was sent out to do. For example, a patrol sent out to get information should never fight unless it can only get its information by fighting, or is forced to fight in order to escape. This principle is probably the one most violated by patrol leaders, especially in peace maneuvers. The patrol sent out for information which accomplishes its mission best, is the one that goes out, gets the information, and *returns without having been seen by the enemy.*

On the other hand, a patrol sent out to drive off hostile detachments has to fight to accomplish its mission. Sometimes a patrol has orders both to gain information and to drive back hostile patrols. In this case it may be proper to avoid a fight at one moment and to seek a fight at another. The patrol leader must always think of his mission when deciding on the proper course to follow, and then use common sense.

231. Messages. There is no other phase of patrolling that requires greater skill and judgment than does the proper sending of messages. A careful study of the following will give you a good idea of *when* to send messages, *what* to send, and *how* to write it:

(a) A message, whether written or verbal, should be short and clear, resembling a telegram. If it is a long account, it will take too much time to write, be easily misunderstood, and if verbal, the messenger will usually forget parts of it and confuse the remainder.

(b) Always state when and where things are seen and reported. If haste is required, do not use up valuable moments writing down the day of the month, etc. These data are essential as a matter of future record for formal telegrams and should be put in patrol messages only when time is abundant; but never slight the essential points of information that will give valuable help to your chief. Always try to put yourself in

his place—not seeing what you see and read your message—and then ask yourself, What will he want to know?

(c) The exact location of the enemy should be stated; whether deployed, marching, or in camp, his strength, arm of the service (cavalry, infantry, or artillery), and any other detail that you think would be valuable information for your chief. In giving your location do not refer to houses, streets, etc., that your chief in the rear has no knowledge of. Give your direction and distance from some point he knows of or, if you have a map like his, you can give your map location.

(d) Be sure your message is accurate. This does not mean that something told you should not be reported, but it should be reported, not as a fact, but as it is—statement by somebody else. It is well to add any information about your informant, such as his apparent honesty, the probability of his having correct information, etc.—this may help your chief.

(e) A message should always end with a short statement of what you are going to do next. For example: “Will remain in observation,” “Will continue north,” “Will work around to their rear,” etc. Time permitting, the bearer of a verbal message should always be required to repeat it before leaving.

(f) A message should be sent as soon as the enemy is first seen or reported. Of course, if the enemy is actually known to be in the vicinity and his patrols have been seen, etc., you must by all means avoid wasting your men by sending them back with information about small hostile patrols or other things you know your chief is already aware of and did not specifically tell you to hunt for.

If you have properly determined in your own mind what your mission is, then you will have no trouble in deciding when to send messages. For example, suppose your orders are, “To reconnoiter along that ridge and determine if the enemy is present in strength,” and you sight a patrol of eight men. You would waste no time or men sending back any message about the patrol, for your mission is to find out if strong bodies of the enemy are about. But suppose that while working under the above orders you located a hostile battalion of infantry—a large body of troops. In this case you would surely send a detailed message, as your mission is to determine if the enemy was present in strength.

Again, suppose that while moving towards the ridge indicated by your chief in his orders, you saw his force suddenly and heavily fired on from a new and apparently unexpected quarter, not a great distance from you, but not on the ridge referred to. You know or believe none of your patrols are out in that neighborhood. In this case you should

realize instantly, without any order, that your mission had changed and you should hasten to discover the size and position of this new enemy and send the information back to your chief, first notifying him of your intended change of direction.

Never forget your mission in the excitement of leading your own little force.

(g) It is frequently just as important to send a message to your chief that the enemy is not in a certain locality as it is to report his actual whereabouts. You must determine from your mission when this is the case. For example, if you were ordered, "To patrol beyond that woods and see if any hostile columns are moving in that direction," and on reaching the far side of the woods you had a good view of the country for some distance beyond, it would be very important to send a message back telling your chief that you could see, say, one-half mile beyond the woods and there was no enemy in sight. This information would be of greatest importance to him. He might feel free to move troops immediately from that vicinity to some more dangerous place. You would then continue your reconnaissance further to the front.

Important. Always remember that to be of value, information must reach your commander in time. Information that reaches him late often loses much, if not all, of its value, and all information that reaches him too late loses all its value.

232.

"MODEL" MESSAGES

1. *Verbal.* "Four hostile infantrymen one mile north of our camp, moving south. I will continue north."
2. *Verbal.* "About one hundred hostile infantrymen two miles north of our camp at two o'clock, marching south. Will observe them."
3. *Verbal.* "Long column of troops marching west in Sandy Creek Valley at two o'clock. Will report details later."
4. *Verbal.* "Just fired on by cavalry patrol near Baker's Pond. Will work to their rear."

5. *Written.*

Patrol from Support No. 2,
Lone Hill,
26 Mch. 11, 8-15 A. M., No. 1.

C. O.,

Support No. 2.

See hostile troop of cavalry halted at x-roads, one mile S. of our outguards. Nothing else in sight. Will remain here in observation.

James,
Corporal.

6. *Written* (very hurriedly).

Lone Hill, 8-30, No. 2.

C. O.,

Support No. 2.

Column of about 300 hostile cavalry trotting north toward hostile troop of cavalry now halted at x-roads one mile south of our out-guards. Will remain here.

James.

7. *Written*.

Patrol from 5th Inf.,
S. E. corner Boling Woods,
3 Apl. 11, 2-10 P. M., No. 2.

Adjutant,

5th Inf., near Baker House.

Extreme right of hostile line ends at R. R. cut N. E. of BAKER'S POND. Entrenchments run S. from cut along crest of ridge. Line appears to be strongly held. Can see no troops in rear of line. Will reconnoiter their rear.

Smith,
Sergeant.

8. *Written* (from cavalry patrol far to front).

Patrol from Tr. B, 7th Cav.,
Boling,
14 June, 12, 10 A. M., No. 3.

To C. O.,

Tr. B, 7th Cav.,

S. on Chester Pike.

No traces of enemy up to this point. Telegraph operator here reports wires running north from Boling were cut somewhere at 8-30 A. M. Inhabitants appear friendly. Will proceed north.

Jones,
Sergeant.

9. *Written* (from cavalry patrol far to front).

Patrol from Tr. B, 7th Cav.,
Oxford,
8 July, 12, 10-15 A. M., No. 2.

To C. O.,

1st Sq. 7th Cav.,

On Valley Pike, S. of York.

Bearer has canteen found in road here, marked "85 CAV.—III CORPS." Inhabitants say no enemy seen here. They appear hostile and unreliable. No telegraph operator or records remain here.

233-234-235

Roads good macadam. Water and haystacks plentiful. Will move rapidly on towards CHESTER.

Lewis,
Sergeant.

Patrol from Support No. 3,
On Ry. $\frac{3}{4}$ mi. N. of County Road,
2 Aug. 12, 9-15 P. M., No. 1.

C. O.

Support No. 2,
Near Maxey House.

R. R. crosses creek here on 80-foot steel trestle. Hostile detachment is posted at N. end. Strength unknown. Creek 5 ft. deep by 60 ft. wide, with steep banks, 5 ft. high. Flows through meadow land. Scattered trees along banks. R. R. approaches each end of trestle on 10-foot fill. R. R. switch to N. E. 700 yds. S. of bridge. (See sketch on back.) I will cross creek to N. of bridge.

Brown,
Corporal.

SUGGESTIONS FOR GAINING INFORMATION ABOUT THE ENEMY

233. Enemy on the march. The patrol should observe the march of the column from a concealed position that hostile patrols or flankers are not apt to search (avoid conspicuous places). Always try to discover if one hostile detachment is followed by another—if what can be seen appears to be an advance guard of a larger body not yet in view. The distance between the detachments, their relative size, etc., is always important.

234. Estimating strength of column. The strength of a column may be estimated from the length of time it takes to pass a selected point. As infantry in column of squads occupies half a yard per man, cavalry one yard per horse, and artillery in single file twenty yards per gun or caisson (ammunition wagon), a selected point would be passed in one minute by 175 infantry; 110 cavalry (at a walk); 200 cavalry at a trot; and 5 guns or caissons. If marching in columns of twos, take one-half of the above figures.

235. Dust. The direction of march, strength, and composition (infantry, cavalry, or artillery) of a column can be closely estimated from the length and character of the cloud of dust that it makes. Dust from infantry hangs low; from cavalry it is higher, disperses more quickly, and, if the cavalry moves rapidly, the upper part of the cloud

is thinner; from artillery and wagons, it is of unequal height and disconnected. The effect of the wind blowing the dust must be considered.

236. Trail of column. Evenly trodden ground indicates infantry; prints of horseshoes mean cavalry, and deep and wide wheel tracks indicate artillery. If the trail is fresh, the column passed recently; if narrow, the troops felt secure and were marching in column of route; if broad, they expected an action and were prepared to deploy. A retreating army makes a broad trail across fields, especially at the start.

Always remember that the smallest or most insignificant things, such as the number of a regiment or a discarded canteen or collar ornament, may give the most valuable information to a higher commander. For example, the markings on a discarded canteen or haversack might prove to a general commanding an army that a certain hostile division, corps, or other force was in front of him when he thought it had not been sent into the field. The markings on the canteen would convey little or no meaning to the patrol leader, but if he realized his duty, he would take care to report the facts. Cavalry patrols working far ahead of the foot troops should be most careful to observe and report on such details.

237. Reflection of weapons. If brilliant, the troops are marching toward you, otherwise they are probably marching away from you.

238. Enemy in position. If an outpost line, the patrol locates the line of sentinels, their positions, the location and strength of the outguards and, as far as possible, all troops in rear. The location of the flanks of the line, whether in a strong or weak position, is of the utmost importance. Places where the line may be most easily penetrated should be searched for and the strength and routes of the hostile patrols observed.

As outposts are usually changed at dawn, this is the best time to reconnoiter their positions.

A hostile line of battle is usually hard to approach, but its extent, where the flanks rest, and whether or not other troops are in rear of these flanks, should be most carefully determined.

Information as to the flanks of any force, the character of the country on each flank, etc., is always of the greatest importance, because the flanks are the weakest portions of a line. In attacking an enemy an effort is almost always made to bring the heaviest fire or blow to bear on one of his flanks. Naturally all information about this most vulnerable part of an enemy is of great importance.

239. Prisoners. When a patrol is ordered to secure prisoners they should be questioned as soon as captured, while still excited and their replies can in a way be verified. Their answers should be written down (unknown to them) and sent back with them as a check on what they may say on second thought.

Prisoners should always be questioned as to the following points. What regiment, brigade, division, etc., they belong to; how long they have been in position, on the march, etc.; how much sickness in their organization; whether their rations are satisfactory; who commands their troops, etc. Always try to make the prisoners think the questions are asked out of mere curiosity.

240. Camp noises. The rumble of vehicles, cracking of whips, neighing of horses, braying of mules, and barking of dogs often indicate the arrival or departure of troops. If the noise remains in the same place and new fires are lighted, it is probable that reinforcements have arrived. If the noise grows more indistinct, the troops are probably withdrawing. If, added to this, the fires appear to be dying out, and the enemy seems to redouble the vigilance of the outposts, the indications of retreat are strong.

241. Abandoned camps. Indications are found in the remains of camp fires. They will show, by their degree of freshness, whether much or little time elapsed since the enemy left the place, and the quantity of cinders will give an indication of the length of time he occupied it. They will also furnish a means of estimating his force approximately, ten men being allowed to each fire.

Other valuable indications in regard to the length of time the position was occupied and the time when it was abandoned may be found in the evidence of care or haste in the constructions of huts or shelters, and in the freshness of straw, grain, dung, or the entrails of slaughtered animals. Abandoned clothing, equipments, or harness will give a clue to the arms and regiments composing a retreating force. Dead horses lying about, broken weapons, discarded canteens, abandoned and broken-down wagons, etc., are indications of the fatigue and demoralization of the command. Bloody bandages lying about, and many fresh graves, are evidences that the enemy is heavily burdened with wounded or sick.

242. Flames or smoke. If at night the flames of an enemy's camp fires disappear and reappear, something is moving between the observer and the fires. If smoke as well as flame is visible, the fires are very near. If the fires are very numerous and lighted successively, and if soon after being lighted they go out, it is probable the enemy is preparing a retreat and trying to deceive us. If the fires burn brightly and

clearly at a late hour, the enemy has probably gone, and has left a detachment to keep the fires burning. If, at an unusual time, much smoke is seen ascending from an enemy's camp, it is probable that he is engaged in cooking preparatory to moving off.

If lines of smoke are seen rising at several points along a railway line in the enemy's rear, it may be surmised that the railroad is being destroyed by burning the cross-ties, and that a retreat is planned.

243. Limits of vision. On a clear day a man with good vision can see:

At a distance of 9 to 12 miles, church spires and towers;

At a distance of 5 to 7 miles, windmills;

At a distance of 2 to 2½ miles, chimneys of light color;

At a distance of 2,000 yards, trunks of large trees;

At a distance of 1,000 yards, single posts;

At 500 yards the panes of glass may be distinguished in a window.

Troops are visible at 2,000 yards, at which distance a mounted man looks like a mere speck; at 1,200 yards infantry can be distinguished from cavalry; at 1,000 yards a line of men looks like a broad belt; at 600 yards the files of squad can be counted; and at 400 yards the movements of the arms and legs can be plainly seen.

The larger, brighter, or better lighted an object is, the nearer it seems. An object seems nearer when it has a dark background than when it has a light one, and closer to the observer when the air is clear than when it is raining, snowing, foggy, or the atmosphere is filled with smoke. An object looks farther off when the observer is facing the sun than when he has his back to it. A smooth expanse of snow, grain fields, or water makes distances seem shorter than they really are.

SUGGESTIONS FOR THE RECONNAISSANCE OF VARIOUS POSITIONS AND LOCALITIES

244. Bridges and fords. At a bridge or ford, the front of the patrol is contracted so as to bring all the men to the passage. The leading patrollers cross first and reconnoiter the far side to prevent the possibility of the enemy surprising the main body of the patrol as it is crossing the bridge. The patrol then crosses rapidly, and takes up a proper formation. A bridge is first examined to see that it is safe and has not been tampered with by the enemy.

245. Crossroads. Crossroads should be reconnoitered in each direction for a distance depending on how rapidly the patrol must continue on, how far from the main road the first turn or high point is etc.

The main body of the patrol usually remains halted near the crossroads, while flankers do the reconnoitering.

246. Defiles. On approaching a defile, if time permits, the heights on either side are reconnoitered by flankers before the patrol enters. If the heights are inaccessible or time is urgent, the patrol passes through, in single file at double time. The same method is adopted in reconnoitering a railroad cut or sunken road.

247. Enclosures. In reconnoitering an enclosure, such as a garden, park, or cemetery, the leading patrollers first examine the exterior, to make sure that the enemy is not concealed behind one of the faces of the enclosure. They then proceed to examine the interior. Great care is taken in reconnoitering and entering an enclosure to avoid being caught in a confined or restricted space by the enemy.

248. Heights. In reconnoitering a height, if the patrol is large enough to admit of detaching them, one or two men climb the slope on either flank, keeping in sight of the patrol, if possible. In any case, one man moves cautiously up the hill, followed by the others in single file at such distance that each keeps his predecessor in view.

249. Houses. When a house is approached by a patrol, it is first reconnoitered from a distance, and if nothing suspicious is seen, it is then approached by one or two men, the rest of the party remaining concealed in observation. If the patrol is large enough to admit of it, four men approach the house, so as to examine the front and back entrances at the same time. Only one man enters the door, the others remaining outside to give the alarm, should a party of the enemy be concealed in the house. The patrol does not remain in the vicinity of the house any longer than necessary, as information relative to its numbers and movements might be given to the enemy, if a hostile party should subsequently visit the place. Barnhouses are searched for newspapers and the inhabitants questioned. If necessary to go up to a building, wood, or mill, where an enemy is likely to be concealed, run for the last couple of hundred yards, having your rifle ready for instant use, and make for some point that will afford you cover when you get close up. In the case of a building, for instance, you would be quite likely to cause them to show themselves sooner than they intended, and thus give you a chance to turn around and get away. If they fired on you while you were approaching at a run, they would not be very likely to hit you.

250. Positions. In approaching a position, but one man advances (one is less liable to be detected than two or more), and he crawls cautiously toward the crest of the hill or edge of the wood or opening of the

defile, while the others remain concealed in the rear until he signals them to advance.

251. Villages. (a) In approaching a small village one or two men are sent in to reconnoiter and one around each flank, but the main body does not enter until the scouts have reported. In small patrols of three to six men so much dispersion is not safe and only one section of the village can be reconnoitered at a time.

(b) If the presence of the enemy is not apparent, the patrol enters the village. A suitable formation would be in single file at proper distance, each man being on the opposite side of the street from his predecessor, thus presenting a more difficult target for hostile fire and enabling the men to watch all windows.

(c) If the patrol is strong enough, it seizes the postoffice, telegraph office, and railroad stations, and secures all important papers, such as files of telegrams sent and received, instructions to postmasters, orders of town mayor, etc., that may be there. If the patrol is part of the advance guard, it seizes the mayor and postmaster of the place and turns them over to the commander of the vanguard with the papers seized.

(d) While searching a village sentinels are placed at points of departure to prevent any of the inhabitants from leaving. Tall buildings and steeples are ascended and an extensive view of the surrounding country obtained.

(e) At night a village is more cautiously approached by a small party than by day. The patrol glides through back alleys, across gardens, etc., rather than along the main street. If there are no signs of the enemy, it makes inquiry. If no light is seen, and it seems imprudent to rouse any of the people, the patrol watches and captures one of the inhabitants, and gets from him such information as he may possess.

(f) The best time for the patrol to approach a village is at early dawn, when it is light enough to see, but before the inhabitants are up. It is dangerous in the extreme for a small patrol to enter a village unless it is certain that it is not occupied by the enemy, for the men could be shot down by fire from the windows, cellarways, etc., or entrapped and captured. As a rule large towns and cities are not entered by small patrols, but are watched from the outside, as a small force cannot effectively reconnoiter and protect itself in such a place.

252. Woods. The patrol enters a wood in skirmishing order, the intervals being as great as may be consistent with mutual observation and support on the part of the members of the patrol. On arriving at the farther edge of the wood, the patrol remains concealed and carefully

looks about before passing out to open ground. When there is such a growth of underbrush as to make this method impracticable, and it is necessary to enter a wood by a road, the road is reconnoitered as in case of defile, though not usually at double time.

FACTS WHICH SHOULD BE OBTAINED BY PATROLS REGARDING CERTAIN OBJECTS

253. Bridges. Their position, their width and length, their construction (trestle, girder, etc.), material (wood, brick stone, or iron), the roads and approaches on each bank.

254. Canals. Their direction, width, and depth; condition of tow-paths; locks and means of protecting or destroying them.

255. Defiles. Their direction; whether straight or crooked; whether heights on either side are accessible or inaccessible; nature of ground at each extremity; width (frontage of column that can pass through).

256. Heights. Whether slopes are easy or steep; whether good defensive positions are offered; whether plateau is wide or narrow; whether passages are easy or difficult; whether the ground is broken or smooth, wooded or clear.

257. Ponds and marshes. Means of crossing; defensive use that might be made of them as obstacles against enemy; whether the marshy grounds are practicable for any or all arms.

258. Railroads. Their direction, gauge, the number of tracks, stations, and junctions, their grade, the length and height of the cuts, embankments, and tunnels.

259. Rivers and other streams. Their direction, width, and depth, the rapidity of the current, liability to sudden rises, and the highest and lowest points reached by the water, as indicated by driftwood, etc., fords, the nature of the banks, kinds, position, and number of islands at suitable points of passage, heights in the vicinity and their command over the banks.

260. Roads. Their direction, their nature (macadamized, corduroy, plank, dirt, etc.), their condition of repair, their grade, the nature of crossroads, and the points where they leave the main roads; their borders (woods, hedges, fences, or ditches), the places at which they pass through defiles, cross heights, or rivers, and where they intersect railroads, their breadth (whether suitable for column of fours or platoons, etc.)

261. Springs and rivulets. Nature of approaches; whether water is drinkable and abundant.

262. Telegraphs. Whether they follow railroads or common roads; stations, number of wires.

263. Valleys. Extent and nature; towns, villages, hamlets, streams, roads, and paths therein; obstacles offered by or in the valley, to the movement of troops.

264. Villages. Their situation (on a height, in a valley, or on a plain); nature of the surrounding country; construction of the houses, nature (straight or crooked) and width of streets; means of defense.

265. Woods. Their situation, extent, and shape; whether clear or containing underbrush; the number and extent of "clearings" (open spaces); whether cut up by ravines or containing marshes, etc.; nature of roads passing through them.

266.

PROBLEMS

(See Fort Leavenworth map in pocket at back of book).

Read each problem carefully and solve its different requirements without looking at the solution. Then compare your answer with the answer given in the text. In all solutions study carefully the paragraphs referred to in the text.

(Note: vn' , un' , um' , etc., means that the points named are located at the approximate intersection of east and west lines running through v , u , etc., and north and south lines running through n' , m' , etc. on margin of map.)

267.

PROBLEM 1

Situation:

A Blue force of one regiment of infantry has outposts facing south on the line Pope Hill (sm')—National cemetery (pk')—E (qh'). A red force is reported to have reached Soldiers' Home (3 miles south of Leavenworth) from the south at 7:00 o'clock this morning. Corporal A is directed by Sergeant B, in command of the upper left support at Rabbit Point (tn'), to take out a patrol toward the waterworks and south along the Esplanade (ro') to the Terminal Bridge.

Required, 1. Give Sergeant B's orders to Corporal A.

Answer. "The enemy, strength unknown, was at Soldiers' Home at 7:00 o'clock this morning. Another patrol will advance along Grant avenue (tm').

"Our outposts will remain here for the day.

"Select from the first section a patrol and reconnoiter this road (Farragut avenue) as far as the waterworks (*un'*), thence by Esplanade to the Terminal Bridge, and report on the ground in our front. When you reach the Terminal Bridge return if no enemy is seen.

"Send reports here."

Required, 2.

How many men does Corporal A select, and why?

Answer. Five men are taken because the patrol is to reconnoiter, not to fight, and on account of the distance to go and lack of information of the enemy, 2 or 3 messages may have to be sent.

Required, 3. What equipment should Corporal A have?

Required, 4. State the points to be noted by Corporal A in selecting his patrol and what inspection does he make?

Answer. He selects privates C, D, E, F, and G, on account of their bravery, attention to duty and discretion. He directs them to carry one meal in their haversacks, full canteen and fifty rounds of ammunition. He then inspects them as to their physical condition, sees that they have proper equipment and that nothing to rattle or glisten is carried.

Required, 5. What does Corporal A next do?

Answer. He gives them their instructions as follows: "The enemy, strength unknown, was at Soldiers' Home (about three miles south of Leavenworth) at 7 o'clock this morning. There will be a friendly patrol along that road (pointing to Grant avenue). We are to reconnoiter along this road and down toward that bridge (pointing). Be very careful not to be seen, take advantage of all cover, and keep touch with C and myself on this road at the point of the patrol. In case we get separated meet at the waterworks (*un'*)."

He then explains the signals to be used, and moves the patrol in close order out along the road until it passes the sentinel at the bridge XV (*un'*), to whom he gives the direction to be taken by the patrol.

Required, 6. Upon leaving XV, what formation would the patrol take, and reasons for same.

Answer. Corporal A and Private C form the point on the road leading southwest of the waterworks; Private D moves on the left overlooking the railroad; Private E moves promptly up Corral Creek (*un'*) to the top of Grant Hill (*un'*) to observe the country toward the southwest; Private F moves about 50 yards in rear of the point, followed at 50 yards by Private G.

Corporal A forms his patrol as stated because of the necessity of getting a view from the hill on each side. Only one man is sent out

on each side because they can be plainly seen by the patrol on the road, and no connecting file is necessary. The distances taken along the road assure at least one man's escape, and Corporal A is in front to get a good view and to signal the flankers.

268.**PROBLEM 2***Situation:*

The head of the patrol is now at the bridge, XVI (*un'*) northwest of the waterworks.

Private E has reached the top of Grant Hill and signals the enemy in sight; the patrol halts and Corporal A moves out to meet Private E who is coming down toward the patrol. He says he saw three mounted men ride up to Grant and Metropolitan avenues (*wm'*) from the south and after looking north a moment move west.

Required, 1. Corporal A's action.

Answer. Corporal A at once writes the following message and sends it back by Private E:

"No. 1.

Patrol, Company B,
Farragut Avenue,
Northwest of Waterworks,
10 May '09, 8:30 A. M.

To Commander Blue Left Support,
Rabbit Point.

3 mounted Reds, seen by Private E, just now reconnoitered at Grant and Metropolitan avenues; they are moving west on Metropolitan avenue; the patrol will continue toward the Terminal Bridge. A,
Corporal.

Reasons. The message is sent because this is the first time the enemy has been seen, and they have not been reported north of Soldiers' Home before. The message should state who saw the enemy, and the man seeing them should always carry the message telling of the facts. The patrol would not allow this small hostile patrol to stop its advance, but would proceed on its route cautiously to avoid being seen and to see if the Red cavalymen are followed by others of the enemy.

Required, 2. Give the method of reconnoitering the buildings at the waterworks and coal mine.

Answer. Private D carefully examines the east side of the enclosures and buildings, while Private C examines the west side. The remainder of the patrol halts concealed in the cut west of the north enclosure, until C and D signal no enemy in sight, whereupon the patrol

moves forward along the road (XV—3rd St.) C and D advancing rapidly between the buildings to the town where they join the patrol.

Required, 3. Give the route followed by E from Grant Hill to the edge of Leavenworth.

Answer. He moves down the east slope of Grant Hill to the ravine just east of the old R. R. bed (*um'*) being careful to keep concealed from the direction of Leavenworth. He moves up the ravine, keeping a sharp lookout to the front, and moving rapidly until abreast, if he has fallen behind. He takes the branch ravine lying just west of Circus Hill (*vm'*), and moves up to its end. Here he halts and makes a careful inspection of Metropolitan avenue and the street south into the city. Being sure the coast is clear, he darts across the narrow ridge south of Circus Hill to the ravine to the east and then joins the patrol. He reports to Corporal A any indication of the enemy he may have seen.

269.

PROBLEM 3

Situation:

A Blue force holds Fort Leavenworth (*om'*) in hostile country. Outposts occupy the line Salt Creek Hill (*gh'*)—13 (*ij'*)—Sheridan's Drive, (*mi'*) against the Reds advancing from the northwest.

At 4:30 P. M., June 25th, Sergeant A is given the following orders by Captain B, commanding the support:

"The enemy will probably reach Kickapoo late today. Our outposts extend as far north as Salt Creek Hill. There were six of our men prisoners at 45 (*dc'*) this afternoon at 1 o'clock, being held by 15 home guards at Kickapoo. Take . . . men from the company and move to Kickapoo, recapture the prisoners and gain all the information you can of the enemy north of there."

Required, 1. How many men does Captain B name, and why?

Answer. 30 men are assigned.

Reason. This is twice as many as the enemy holding the prisoners, and to secure secrecy no larger force than absolutely necessary should be taken. This force will allow men to surround the enemy while the remainder rush them.

Required, 2. Give the order of Sergeant A to his patrol.

Required, 3. What route will the patrol take.

Answer. 11 (*jj'*)—13 (*ij'*)—Salt Creek Hill (*gh'*)—and along the edge of the woods east of the M. P. R. R. (*fg'*) as far as the bridge opposite Kickapoo Hill—thence up Kickapoo Hill toward 45 (*dc'*).

Reasons. Since the patrol's orders do not require any reconnaissance before reaching Kickapoo the shortest and most practical route

is chosen. The route as far as Salt Creek Hill lies behind our outpost line and is thus protected. The main roads are avoided because they will be carefully watched by the enemy. The edge of the woods east of the M. P. Ry. (beginning about ff') gives good cover and by moving to the bridge the patrol can probably sneak close in on the enemy and capture them by surprise.

270.**PROBLEM 4***Situation:*

The patrol reaches the top of Kickapoo Hill (*cd'*). Sergeant A and private C move cautiously to the top and see the six prisoners in the cemetery (*cd'*) just west of Kickapoo Hill, and a Red sentinel at each corner. Just west of the cemetery are about 10 more Reds. No others are visible.

Required, 1. What decision does Sergeant A make and what does he do?

Answer. He decides to capture the enemy by surprise. He leaves Private C to watch and, moving cautiously back to his patrol, makes the following dispositions: Corporal D with 10 men to move up to Private C and cover the enemy, remaining concealed. He takes the remainder of the patrol with fixed bayonets around the northwest slope of Kickapoo Hill in the woods and moves up the ravine toward 29. When his detachment arrives within about 100 yards of the enemy, they charge bayonet and rush them. Corporal D's party at the same time rush in from the opposite side. (Note: The enemy are demoralized by the surprise and are captured without a shot being fired.)

Required, 2. What action does Sergeant A now take?

Answer. He causes the enemy to be kept apart while he and his noncommissioned officers question them separately. He then questions the Blue prisoners, and furnishing them with guns taken from the Reds, sends them and the captured Reds back to our line under Corporal D, with a written message giving the information secured from his questions.

Required, 3. What does he then do?

Answer. Places his main body in concealment at the Cemetery (*cd'*) and sends a patrol under Corporal H via 35—41—43, and one under Corporal F via 29—27—23 west to learn further of the enemy in execution of the second part of his orders.

The patrol under Corporal H sends back the following message:

"No. 1.

Patrol Company A, 1st Infantry,
21 June '09; 5:30 P. M.

Commander Expeditionary Patrol,
at 45.

A column of infantry is moving east about 1 mile west of Schweizer (aa'); about 800 yards in front of this body is another small body with 8 to 10 men 300 yards still farther east. It took the main body 2 min. 45 sec. to pass a point on the road. I remain in observation.

H,
Corporal."

Required, 3. The size of the command reported by Corporal H and its formation.

Answer. 1 battalion infantry (512 men), preceded by 1 section as advance guard. The advance guard having only advance party and point $2\frac{3}{4}$ minutes $\times$ 175 = 481 men in the main body, leaving about 32 men for the advance guard.

271.

PROBLEM 5

General Situation:

A Blue force of one regiment of infantry has outposts facing south on the line Pope Hill (*sm'*) National Cemetery (*qk'*)—E (*qi'*). A Red force moving north reached Soldiers' Home at 7 o'clock this morning.

Special Situation:

Corporal B is chosen by Sergeant A, commander of the right support at the National Cemetery, to take a patrol south as far as 20th street (*yf'*) and Metropolitan avenue (*wh'*), to report on the ground along the route, and to reconnoiter the enemy. A friendly patrol moves along Sheridan's Drive (*i*)—Atchison Hill (*rq'*)—Southwest Hill (*uc'*), and one on Prison Lane (*rk'*).

Required, 1. Sergeant A's orders, verbatim (that is, word for word).

- 2 Give the various details attended to by Corporal B before he moves out with his patrol.
- 3 What is the formation of the patrol when its point is at E (*qh'*).
4. When the patrol reaches 14 (*ug'*), how are the intersecting roads reconnoitered?

5. Four mounted men are seen riding west at a walk at 64 (*wh'*). What action does Corporal A take?
6. Describe the ground passed over by the patrol.

272.**PROBLEM 6***Situation.*

The enemy is moving east toward Frenchman (*oc'*) and is expected to reach there early tomorrow. A company at 72 (*uj'*) forms the left support of an outpost in hostile country, on the line 70 (*vj'*)—National Cemetery (*qj'*). At 4 P. M. Sergeant A is ordered to take a patrol of 12 men and go to Frenchman and destroy the bridge there, remain in observation in that vicinity all night.

Required, 1. His orders to the patrol.

2. The route the patrol will follow, and its formation crossing the Atchison Hill—Government ridge.
3. Give the conduct of the patrol from Atchison Hill (*rg'*)—Government Hill (*tf'*) to its position at the bridge at Frenchman.

273.**CAVALRY PATROL PROBLEMS***General Situation:*

A Blue squadron is camped for the night at Waterworks (*vm'*), Fort Leavenworth, and has outposts on the line XIV (*un'*)—Grant Hill (*um'*) Prison Hill (*wk'*). A Red force is reported to be advancing from the north on Kickapoo (*cb'*).

274.**PROBLEM 1***Special Situation:*

Lieutenant A, commanding the left support on Prison Hill, at 5 P. M. directs Sergeant Jones to take a patrol of 5 men from his platoon and move via Atchison Cross (*ug'*) to the vicinity of Kickapoo and secure information of any enemy that may be in that locality. Another patrol is to go via Fort Leavenworth (*ol'*).

Required, 1. The order given by Lieutenant A, verbatim.

Answer. "Sergeant Jones, the enemy is north of Kickapoo, moving on that place. The squadron will remain here tonight; Sergeant B will take a patrol through Fort Leavenworth.

"Select a patrol of 5 men from your platoon and move out via Frenchman's (*oc'*) toward Kickapoo.

"Secure any information you can of the enemy in that locality.

"Report on the condition of the bridges between here and 47 (fd').

"You may have to stay out over night.

"Send messages here."

Sergeant Jones selects five good men, directs them to take one cooked ration each and canteen full of water. He inspects the men and horses carefully; sees that no horse of conspicuous color or that neighs is taken. Explains the orders to his men, etc., as was done in the infantry patrol.

Required, 2. What route does the patrol take, and why?

Answer. Metropolitan avenue (w)—70 (vj')—72 (vj')—14 (ug')—Frenchman (oc')—17 (jc')—47 (ec'). *Reasons:* The enemy is distant and Kickapoo, the object of the patrol, is seen from the map, which Sergeant Jones has, to be over an hour's ride at a walk and trot. It is not at all probable that the enemy will be met until the patrol reaches the vicinity of Kickapoo and Sergeant Jones decides to take the shortest and best road through it is a main highway instead of Sheridan's Drive (j) or the F (qg')—15 (jg') lane.

It is always well for a patrol to avoid main highways when the enemy is near, especially in hostile country, but here the time saved more than justifies the use of the direct route.

275.

PROBLEM 2

Same situation as Problem 1.

Required, 1. The formation and conduct of the patrol as far as Frenchman's.

Answer. Sergeant Jones determines to move at a walk and trot (5 miles per hour) in order to reach the vicinity of Kickapoo and take up a position of observation before night. Sergeant Jones and Private B are in the lead, 2 men about 100 yards to the rear, the remaining 2 men about 75 yards in the rear of these. They move out at a trot along the road until Atchison Cross is reached. The two cross-roads are reconnoitered without halting the patrol, in as much as from the cross-roads a good view is had north and south.

From Atchison Cross to 16 (sf') the patrol moves at a walk, being up a slope from 4 to 6 degrees. Usually such a place would be rushed through, but the distance of the enemy makes this unnecessary. No scouting is done off the road through the woods, because of the distance of the enemy. On reaching the top of the hill the patrol is halted while Sergeant Jones moves up to the high ground south of the road at the crest, and in concealment searches with his glasses the road as far as

Frenchman's, especially the village beyond G (qf'). Seeing no signs of the enemy he moves the patrol down the hill at a walk until the cut is passed and there takes a fast trot, so as to avoid being long in a position where they could be seen from the direction of Kickapoo. The same formation and gait are maintained as far as Gauss' (pd'), where a walk is taken to rest the horses and to gain opportunity to see if any enemy are holding the bridge at Frenchman's.

Situation:

Just as the patrol comes to a walk Sergeant Jones sees what appears to be a dismounted patrol moving south over the ridge about 650 yards north of Frenchman's. He can see three men.

Required, 2. Action taken by Sergeant Jones.

Answer. The patrol is moved into the orchard just off the road while Sergeant Jones moves quickly to the top of the hill and, concealed by the trees, examines the road north to see if the 3 men are followed by others forming part of a larger patrol or of a column. He finds the three men are not followed.

Required, 3. What does he do next?

Answer. He determines to capture the patrol by surprise. He has the horses led over south of the orchard hill so as not to be visible to the enemy. He then distributes his men along the north edge of the orchard, himself nearest the bridge, 2 men 75 yards back along the road toward G (qf'), then 2 men 75 yards farther along toward G. As the third man comes opposite him, Sergeant Jones cries "Halt" which is the signal for the other parties to similarly hold up their men.

Reasons. Sergeant Jones might either capture the hostile patrol or let it pass, and then proceed on his road. Since they are the first enemy seen and there is such a good chance to capture them, and as they may furnish definite information of the enemy's main force, he decides as stated. There is an objection in capturing them that he will have to send one or two men to take them to camp. The patrol is placed as described above so as to have two men opposite each of the enemy, except for Sergeant Jones, who is alone. By thus covering each man of the hostile patrol by two of our men, they will at once see the folly of an effort to escape and no shot need be fired. One man is holding the horses.

276.

PROBLEM 3

Required:

1. What action does Sergeant Jones take before leaving the vicinity of Frenchman's.
2. Give the formation and conduct of the patrol after leaving here.

3. Give the report submitted by Sergeant Jones under his instructions in regard to bridges.

At 6:30 P. M. (it is dark at 7:30) the patrol reaches 17 (jc').

4. Give the route followed from here and the disposition of the patrol made for the night.

277.

PROBLEM 4

The Missouri river is the boundary between hostile countries.

A Blue separate brigade (3 regiments infantry, 1 squadron cavalry, 1 battery field artillery) is moving from Winchester (19 miles west of Leavenworth) to seize the Rock Island bridge (q) across the Missouri river at Fort Leavenworth. The cavalry squadron is camped at Lowmont, 8 miles west of Leavenworth, for night June 4-5. At 3 P. M. Sergeant Jones is directed to take a patrol of six men and move via the Rock Island bridge into Missouri and gain information of the enemy reported to be now just east of the river.

Required, 1. Give the formation of the patrol when it first comes on the map.

Required, 2. Give the conduct of the patrol from Mottin's (oa') to G (qf').

At Frenchman Sergeant Jones met a farmer coming from Fort Leavenworth, who said about 200 hostile cavalry were seen just east of the Missouri about 2 P. M., moving towards the Terminal Bridge (z).

Required, 3. Action of Sergeant Jones. (Does he hold the man? Does he send a message? Does he change his plans or direction of march?)

The patrol reaches the top of the hill, Sheridan's Drive—Government Hill (tf').

Required, 4. What action does Sergeant Jones take before going east?

THE SERVICE OF SECURITY

GENERAL PRINCIPLES

278. The *service of security* embraces all those measures taken by a command to protect itself from observation, annoyance, or surprise by the enemy.

On the march detachments employed in the service of security are called *advance*, *flank* or *rear guards*; in camp or bivouac they are called *outposts*.

As the principal duty of these bodies is the same, namely, that of protecting the main body, there is a general similarity in the for-

mations assumed by them. There is (1) *the cavalry covering the front*; next (2) *a group, or line of groups in observation*; then (3) *the support, or line of supports*, whose duty is to furnish the observation groups, and check the enemy pending the arrival of reinforcements; still farther in the rear is (4) *the reserve*.

Troops on the service of security pay no compliments; soldiers salute only when they address, or are addressed by, a superior officer.

ADVANCE GUARDS

279. Duties. *The primary duty of an advance guard is to insure the safe and uninterrupted advance of the main body.*

In detail its duties are:

1. To guard against surprise and furnish information by reconnoitering to the front and flanks.
2. To push back small parties of the enemy and prevent their observing, firing upon or delaying the main body.
3. To check the enemy's advance in force long enough to permit the main body to prepare for action.
4. When the enemy is met on the defensive, to seize a good position and locate his lines, *care being taken not to bring on a general engagement unless the advance guard commander is authorized to do so.*
5. To remove obstacles, repair the road, and favor in every way possible the steady march of the column.

280. Strength and composition. Subject to variation according to the situation, one-ninth to one-third of a command may be assumed as a suitable strength for an advance guard. The larger the force, the larger in proportion is the advance guard, for a large command takes relatively longer to prepare for action than a small one.

Machine guns materially increase the effectiveness of an advance guard. They are used in holding bridges, defiles, etc., until reinforcements can be brought up.

Engineers are usually attached to an advance guard to remove obstacles, repair roads, etc.

Examples:

<i>Command</i>	<i>Advance Guard</i>
1 battalion of infantry (4 companies)	} $\frac{1}{2}$ to 1 company.
1 regiment of infantry (12 companies)	
	} 2 to 4 companies.

281. Distance from main body. The distance at which the advance guard precedes the main body, or the main body follows the advance guard, is stated in the "march order" issued by the commander of the column; for a company as advance guard this is from 300 to 500 yards.

FORMING THE ADVANCE GUARD

282. Advance guard commander. On receipt of the march order the advance guard commander estimates the situation and, at the proper time issues the *advance guard order*. This order is written or verbal, according to circumstances, divides the advance guard into its tactical components (advance cavalry, support, etc.), and gives the necessary instructions for each. He conducts the advance so as not to interrupt the steady march of the main body, and when ordered to move at a certain distance in front of the latter, keeps the necessary connection therewith. He bears constantly in mind the duties of an advance guard and studies the ground with a view to tactical dispositions should the enemy be encountered.

Written order for an Advance Guard of 2 battalions of infantry, 1 troop cavalry, 1 battery artillery, detachment of engineers detachment hospital corps:

(See Fort Leavenworth map in pocket at back of book.)

Field Orders
No. 1.(x)

Advance Guard, Det. 1st Div.
Leavenworth, Kansas,
10 Aug. '08, 5:30 A. M.

Troops

(a) Advance Cavalry

Captain B
Tr. A, 1st Cav.
(less 1 squad)

(b) Support:

Major C
1st Bn. 1st Inf.
1 squad Tr. A,
1st Cav.
Det. Co. A, Engrs.

(c) Reserve—in
order of march:
Hq. and 2nd Bn.
1st Inf.
Btry. B 5th
F. A.

3d Bn. 1st Inf.
Det. Amb. Co. No. 1

1. A Red force of all arms is reported to have camped near ATCHISON (1) last night. Its cavalry patrols were seen near KICKAPOO yesterday.

Our main body will follow the advance guard at one-half mile.

2. This advance guard will march on KICKAPOO.

3. (a) The advance cavalry will leave camp at once and march via ATCHISON CROSS to KICKAPOO, SHERIDAN'S DRIVE and the country west of the line of march will be carefully observed.

(b) The point of the support will start at 5:45 A. M. and march by the ATCHISON CROSS—FRENCHMAN—KICKAPOO road.

(c) The reserve will follow the support at 800 yards.

(x) This order is issued pursuant to a previous "march order" and assumes that the troops designated for the advance guard have been notified when and where to assemble.

(1) About 14 miles northwest of Fort Leavenworth.

4. The field train will assemble near 70 at 7 A. M. under Captain X, Quartermaster, 1st Inf., and join the field train of the main body as that train passes.

I shall be at the head of the reserve.

Y,
Colonel,
Commanding.

Delivered verbally to assembled troop, battalion, and battery commanders, and staff; copy to det. commander by Lt. N.

Note: The paragraphs on the left lettered (a), (b), (c), etc., are called the *distribution*, and those on the right numbered 1, 2, 3, etc., are called the *body*.

In issuing his order to an advance guard a noncommissioned officer should follow the form above, except that it should be verbal, and the troops in each part of the advance guard should be named in the body of the order. For example, in giving an advance guard order for one platoon, the noncommissioned officer would say, for instance, to his platoon:

"A Red battalion is reported to have camped near Atchison last night. Our main body will follow us at 500 yards.

"This platoon will form the advance guard and will march toward Kickapoo.

"The point will start at 5:45 A. M. and move by the Atchison Cross—Frenchman-Kickapoo road. The remainder of the advance guard will follow at 300 yards.

"I will march with the point."

At the moment of starting he commands "Form Advance Guard, March," and forms the advance guard as prescribed in Drill Regulations.

283. Advance cavalry. The advance cavalry is that part of the advance guard going in front of the support. It reconnoiters far enough to the front and flanks to guard the column against surprise by *artillery fire*, and to enable timely information to be sent to the advance guard commander.

The infantry of the advance guard is divided into two parts, the support and the reserve.

284. Support. Following the advance cavalry is the support, varying in strength from one-fourth to one-half of the advance guard. As the support moves out it sends forward an *advance party* several hundred yards, the distance varying with the nature of the country and the size of the command. For a company advance guard, the *advance party* might be one section 200 yards in front of the rest of the support.

The *advance party* supplements the work of the advance cavalry, reconnoitering to the front and flanks to guard the support from surprise by *effective rifle fire*. The patrol preceding the *advance party* about 100 to 150 yards on the line of march is called the *point*, and is commanded by an officer or an experienced noncommissioned officer. As far as

practicable, reconnoitering to the flanks is done by mounted scouts, thus lessening the work of foot soldiers.

The *support commander* ordinarily marches with the *advance party*, but goes wherever needed. He is provided with a map, and with native guides, if they are necessary. He sees that the proper road is followed; that guides are left in towns and at cross-roads; that necessary repairs are made to roads, bridges, etc., and that information of the enemy or affecting the march is promptly sent to the advance guard commander. He tries promptly to verify information of the enemy.

285. Reserve. The reserve follows the support at several hundred yards distance. In advance guards of 2 companies or less this distance is 300 to 400 yards.

286. Reconnaissance.¹ In conducting the reconnaissance of patrols are, as a rule, small—from two to six men.

The flanking patrols, whether of the advance cavalry or of the advance party, are sent out to examine the country wherever the enemy might be concealed. If the nature of the ground permits, these patrols march across country or along roads and trails parallel to the march of the column. For cavalry patrols this is often possible; but with infantry patrols and even with those that are mounted, reconnaissance is best done by sending the patrols to high places along the line of march to overlook the country and examine the danger points. These patrols signal the results of their observations and, unless they have other instruction, join their commands by the nearest routes, other patrols being sent out as the march proceeds and as the nature of the country requires.

Deserters, suspicious characters, and bearers of flags of truce, the latter blindfolded, are taken to the advance guard commander.

Civilians are not permitted to precede the advance guard.

287. Communication. Communication between the fractions of a small advance guard and between the advance guard and the main body, is maintained by mounted messengers, cyclists, or men called connecting files.

288. Advance guard of a small command. In forming the advance guard of a small command the foregoing distribution is modified, depending upon the situation. *A company or troop usually sends forward only a point; a battalion or a squadron, and advance party with its point; for a single regiment, a reserve in the advance guard is seldom necessary.*

289. Advance guard of a cavalry command. Cavalry marching independently, adopts formations for its advance guard similar to those

¹ By *reconnaissance* is meant an examination of the country for the purpose of obtaining information.

described above, though the distances are generally greater. An advance party with a few patrols is usually enough for a squadron, and precedes it from 600 to 1,000 yards.

FLANK GUARDS

290. The flanks of a column are protected in part by the advance guard, which carefully examines the ground on both sides of the line of march. It may be necessary, however, to provide additional security for a flank threatened by the enemy. This is done by sending a detachment, called a *flank guard*, to cover the exposed flank. Their duties and formation are similar to those of an advance guard. They keep in constant touch with the column by means of mounted or dismounted messengers.

REAR GUARDS

291. Duties. The rear guard is charged with the important duty of covering the retreat. Its strength varies from one-third to one-sixth of the entire command.

When a commander decides to retreat he issues a *retreat order* in which he names the different parts of the column (main body, rear guard, etc.) and the commander and gives necessary orders to each.

292. Forming the rear guard. The rear guard commander, on the receipt of the retreat orders issues a *rear guard order*, according to the following general form:

Field Orders	(Title)
No.....	(Place)
Troops	(Date and hour)
(a) Reserve—in order of march (Troops)	1. (Information of enemy and of our supporting troops.)
(b) Support: (Commander) (Troops)	2. (Plan of commander—duty of rear guard.)
(c) Rear Cavalry: (Commander) (Troops)	3. (a) (Instructions for reserve—place and time of departure, or approximate distance from main body—reconnaissance.)
(d) Right (left) Flank Guard: (Commander) (Troops)	(b) (Instructions for support—place and time of departure or distance from reserve—any special reconnaissance.)
	(c) (Instructions for rear cavalry—place and time of departure, road or country to be covered—special mission.)
	(d) (Instructions for flank guard—place and time of departure, route, special mission.)
	4. (Instructions for field train when necessary—usually to join train of main body.)
	5. (Place of commander or where messages may be sent.)
	(Signature.)
(How and to whom issued).	

For small rear guards, 2 companies or less, the troops are named in the body of the order which is given verbally.

When it is not necessary to withdraw fighting in skirmish lines, the greater part of the rear guard marches on the road in column of route, taking up a formation resembling that of an advance guard faced

to the rear. The distribution of troops is therefore similar to that of an advance guard, namely:

Reserve.
Support.
Rear Cavalry.

The *rear cavalry* is that portion of the rear guard cavalry following the support. The support, as in an advance guard, is divided into two parts; that part nearest the enemy is called the *rear party* and marches with a *rear point*.

293. Distances. The distances of the rear guard from the main body and between the fractions of the rear guard are about the same as in the case of an advance guard. If marching at night the rear guard draws nearer the main body.

294. Communication. Communication with the main body and with the parts of the rear guard, is maintained by messengers and connecting files.

295. Action of the rear guard. The withdrawal of defeated troops is delayed, if possible, until night. If it becomes necessary to begin a retreat while an engagement is in progress, the rear guard is organized and takes up a defensive position generally behind the fighting line; the latter then falls back and assembles under cover of the rear guard.

The rear cavalry gives away before the enemy's pursuit only when absolutely necessary, maintains communication with and sends information to the rear guard commander, and pays special attention to the weak points in the retreat, namely, the flanks. It makes use of every kind of action of which it is capable, according to the situation and unless greatly outnumbered by hostile cavalry it causes considerable delay to the enemy.

When the enemy is conducting an energetic pursuit the rear guard effects its withdrawal by taking up a succession of defensive positions (that is, where the nature of the ground enables the rear guard to defend itself well) and compelling the enemy to attack or turn them. When the enemy's dispositions for attack are nearly completed, the rear guard begins to fall back, the cavalry on the flanks being usually the last to leave. The commander designates a part of the rear guard to cover the withdrawal of the remainder; the latter then falls back to a new position in rear, and in turn covers the withdrawal of the troops in front. These operations compel the enemy continually to deploy or make turning movements, and constantly retard his advance.

The pursuit may be further delayed by obstacles placed in the enemy's path; bridges are burned or blown up; boats removed or destroyed; fords and roads obstructed; tracks torn up; telegraph lines cut and houses, villages, woods, and fields fired. Demolitions and obstructions are prepared by engineers, assisted, if necessary, by other troops detailed from the reserve, and are completed by the mounted engineers of the rear party at the last moment.

The instructions of the supreme commander govern in the demolition of important structures.

296. ADVANCE GUARD PROBLEM

(See Fort Leavenworth map in pocket at back of book.)

Situation.

A Blue battalion, in hostile country, is in camp for the night August 5-6 at Spring (*ja'*). At 9:00 P. M., August 5, Lieutenant A, Adjutant gives a copy of the following order to Sergeant B:

1st Battalion, 1st Infantry,
Sprong, Kansas,
5 Aug. '09.

Field Orders No. 5.

1. The enemy's infantry is 6 miles east of FORT LEAVENWORTH. His cavalry patrols were seen at F (*qq'*) today.

Our regiment will reach FRENCHMAN'S (*oc'*) at noon tomorrow.

2. The battalion will march tomorrow to seize the ROCK ISLAND BRIDGE (*q*) at FORT LEAVENWORTH.

3. (a) The advance guard, consisting of 1st platoon Co. A and mounted orderlies B, C, D, under Sergeant B, will precede the main body at 400 yards.

(b) The head of the main body will march at 6:30 A. M. from 19, via the 17 (*jc'*)—15 (*jd'*)—5 (*lm'*)—FORT LEAVENWORTH (*om'*) road.

4. The baggage will follow close behind the main body under escort of Corporal D and 1 squad Co. B.

5. Send reports to head of main body.

C,
Major, Comdg.
Copies to the company commanders, to Sergeant B and Corporal D.

Required. 1. Give Sergeant B's estimate of the situation. The estimate of the military situation includes the following points:

1. His orders or mission and how much discretion he is allowed.
2. The ground as it influences his duty.
3. The position, strength and probable intentions of the enemy.
4. Sergeant B's decision.

Answer. 1. The size of the advance guard, its route and the distance it is to move in front of the main body are prescribed by the Major C. Sergeant B is free to divide up the advance guard as he sees fit, to use the various parts so as to best keep open the way of the main body, maintain the distance of 400 yards in front of it, and protect it from surprise by the enemy.

2. The ground may be such as to make easy or hinder reconnaissance, such as hills or woods; to impede or hasten the march, such as roads, streams, defiles; to offer good or poor defensive positions; to offer good or poor opportunities for an attack. Sergeant B sees from his map that the ground is rolling and open as far as Kern (*ji'*) with good positions for reconnaissance and for defense or attack. There is a bridge over Salt Creek (*ij'*) which has steep banks and will be a considerable obstacle if the bridge has been destroyed. From this creek to Kern the advance would be under effective fire from Hancock Hill (*ki'*) so that these heights must be seized before the main body reaches 15 (*ig'*).

Beyond Kern the heavy woods make reconnaissance difficult and must be treated somewhat like a defile by the point.

3. There is little to fear from the main body of the enemy which is 1½ miles farther from the Rock Island bridge than we are, but we know the enemy has cavalry. The size of the cavalry force is not known, and may be sufficient to cause us considerable delay especially in the woods. The enemy's evident intention is to keep us from seizing the bridge.

4. Having considered all these points Sergeant B comes to the following decision. * * * * * (Before reading the decision as contained in the following paragraph, make one of your own.)

Answer. To have only an advance party with which to throw forward a point of 5 men 200 yards to the front and send out flankers as needed; to send the three mounted orderlies well to the front of the point to gain early information of the enemy, especially on Hancock Hill (*ji'*) and the ridge to the north of 11 (*jj'*).

Required, 2. Sergeant B's order.

Answer. Given verbally to the platoon and mounted orderlies, at 9:30 P. M.

"The enemy's cavalry patrols were seen at F (*qh'*) today; no hostile infantry is on this side of the Missouri river. The battalion will move tomorrow to Fort Leavenworth, leaving 19 (*ja'*) at 6:30 A. M.

"This platoon and orderlies B, C, and D will form the advance guard, and will start from the hedge 400 yards east of 9 at 6:30 A. M. via the 17 (*jc'*)—15 (*ig'*)—5 (*lm'*) road.

"The point, Corporal Smith and 4 men of his squad, will precede the remainder of the advance guard at 200 yards.

"I will be with the advance party. Private X and Y will act as connecting files with the main body."

The flankers will be sent out from time to time by Sergeant B as necessary.

Required, 3. The flankers sent out by Sergeant B between 19 (ja') and 15 (jg').

Answer. A patrol of 3 men is sent to Hill 900 southeast of 19 (ja'), thence by Moss (kc') and Taylor (lc') houses to Hill 840 east of Taylor, thence to join at 15 (jg').

Two men are sent from the advance party as it passes Hill 875.5 (ic') to the top of this hill to reconnoiter to the front and northeast. These men return to the road and join after the advance party has reached Salt Creek. Two men are sent ahead of the advance party at a double time to take position on Hill 875 northeast of J. E. Daniels (jf') and reconnoiter to the northeast and east.

Reasons. The patrol sent out on the south moves out far enough to get a good view from the hills from which the enemy could observe or fire into the column. There is no necessity of sending out flankers north of the road at first, because from the road itself a good view is obtained. Hill 875.5 and 875 give splendid points for observing all the ground to the north and east. (*Don't send flankers out unless they are necessary.*)

Required, 4. When the advance party reaches J. E. Daniels' house (je') a civilian leaves the house and starts toward 15. What action does Sergeant B take?

Required 5. When the advance party reaches Salt Creek bridge (jj') the point signals "enemy in sight," and Private H reports that he saw about 6 or 8 mounted men ride up to the edge of the woods at Kern, halt a moment, and disappear. What action does Sergeant B take?

Answer. He at once sends a message back by Private H stating the facts. He then orders the advance party to move forward, hastens up to the point and directs it to continue the march, seeking cover of fences and ravines and hill top.

Required, 6. When the point reaches Schroeder (jh') it receives fire from the orchard at Kern. What action is taken?

Answer. The men in the point are moved rapidly down the hill and gain shelter in the ravines leading toward Kern. Two squads are rapidly placed in line along the ridge west of Schroeder and under cover of their fire the remainder of the advance party run down the hill at 10 yards distance to join the point. A squad of this force is then hurried forward to the Kern house. Here the squad is stopped by fire and Sergeant B deploys two more squads which advance by rushes and drive out the enemy, found to be 10 cavalrymen. The squads left at

Schroeder now join at double time and the advance party moves forward, without having delayed the march of the main body.

OUTPOSTS

297. Duties. The duties of an outpost may be summed up in the words *reconnaissance*, *observation* and *resistance*—that is to say, *reconnoitering* the country, *observing* everything that takes place, especially regarding the enemy, and *resisting* the enemy in case of an attack.

1. Specifically its duties are:

- (1) To protect the main body so that the troops may rest undisturbed.
 - (2) In case of attack to check the enemy long enough to enable the main body to prepare for action.
2. The vigilance of outpost troops must be unceasing, but they must avoid bringing on combats or unnecessarily alarming the command. Firing disturbs the rest of troops, and if frequently indulged in ceases to be a warning.
3. No trumpet signals except "to arms," or "to horse," are sounded, and all unnecessary noises are avoided.

298. Strength and composition. Subject to variation according to the situation, an outpost, as a rule, does not exceed one-sixth of the entire command, and should be less if the conditions permit. If at the end of a march the halt is for the night only, and danger is not likely, simple measures like detached posts and a few patrols are generally sufficient.

1. A mixed outpost is composed principally of infantry.

The infantry is charged with the duty of observation in the vicinity of the outpost line, especially at night, and with resisting the enemy long enough for the main body to prepare for action. The cavalry is charged with the duty of reconnaissance at a distance, and is very useful in the open country during the day.

2. If the infantry has been severely taxed by marching or fighting, a large part of the outpost may be temporarily formed of cavalry.

That part of the outpost cavalry in front of the line of supports (including the line of sentinels), is called the *advance cavalry*. When an outpost is detached from the advance guard, the advance cavalry of the advance guard becomes the advance cavalry of the outpost, and continues the work of reconnaissance until recalled for the night.

The line of resistance (that is, the line to be occupied for resisting the enemy in case of an attack), should have a good view and

field of fire to the front, and concealment and shelter from the enemy's fire. There should be good communications to the rear and good lateral communications, (that is, communications extending in the same direction as the line of resistance, such as roads and trails, or at least no impassable obstacles from front to rear within the lines, such as ravines, etc.) Raised positions from which a wide extent of country is visible greatly aid observation. Well defined natural features, such as streams, ridges, roads, farther edges of woods, etc., are convenient in naming the limits of an outpost position. A strong defensive line, (that is, a strong line on which the outpost can defend itself in case of attack) is of greatest value than ease of observation; difficulties of observation can be offset by diligent patrolling.

The outpost covers the front of the main body and extends around the flanks, unless they are protected by natural obstacles, such as streams, etc., or by other troops.

Troops occupying the advance positions of outposts as a rule intrench and strengthen their positions, clear the field of fire when practicable, and open and improve communications along the line and to the rear.

Obstacles are placed so as to delay the enemy under fire without giving him protection. Barbed wire is often used for this purpose.

Distances to conspicuous objects in front of the line and within range are measured or estimated, and the men made familiar with the ranges.

ESTABLISHING THE OUTPOST

299. On receipt of the "halt order" from the commander of the main column, naming the camp ground, the outpost commander issues the outpost order. This order gives the approximate line of resistance to be held, divides the outpost into its tactical components (advance cavalry, supports, etc.) and gives the necessary instructions for each.

Outpost orders are in the following form:

300.

OUTPOST ORDER

Field Orders	(Title)	(Place)	(Date and hour)
No.			
Troops			
(a) Advance Cavalry:	1. (Information of the enemy and of our supporting troops.		
(Commander)			
(Troops)			
(b) Support:	2. (Plan of commander—to establish outpost approximate line of resistance.)		
No. 1 (Commander)			
(Troops)			
No. 2 (Commander)	3. (a) (Instructions for advance cavalry—contact with enemy, roads or country to be specially watched, special mission.)		
(Troops)			

- | | |
|---|---|
| No. 3 (Commander)
(Troops) | (b) (Instructions for support—positions they are to occupy, and sections of line of resistance which they are to hold, intrenching, etc.) |
| (c) Detached Post:
(Commander)
(Troops) | (c) (Instruction for detached posts—position to be occupied, duties, amount of resistance.) |
| (d) Reserve:
(Commander)
(Troops) | (d) (Instruction for reserve—location, observation of marks, etc., and duties of special troops.) |
| (How and to whom issued.) | 4. (Instructions for field train if it has accompanied the outpost.) |
| | 5. (Place of commander or where messages may be sent.) |
| | (Signature) |

(Note: In the case of a small outpost the order is usually verbal and the troops are named in the body of the order.)

301. Distribution of troops. The outpost order usually prescribes the following distribution of troops:

- Advance cavalry;
- Supports;
- Detached post or posts;
- Reserve.

The reserve, supports and detached posts proceed to their respective positions by the shortest routes, providing for their own security.

As soon as practicable the outpost commander makes a careful inspection of the outpost position and orders such changes in the arrangements as he deems necessary. As the movement of troops across country, especially at night, is difficult, he places the supports so as to command the roads. For this reason, when dividing the line of resistance into sections, he is careful to see that the dividing lines are not on roads or where the enemy can readily approach.

When practicable, outposts should be in position before dark, so that the troops can *become acquainted with the country* and make preparation for defense.

In front, reconnoitering toward the enemy, is the advance cavalry; then comes the *line of observation* occupied by small groups of men sent out from the supports to observe; in rear of the line of observation is the *line of resistance*, on or near which the supports are posted, and which becomes the *first line of battle*, if the enemy makes a determined advance; in rear of the line of resistance, centrally located, is the reserve; still farther in rear is the main body. *In small commands the reserve is generally omitted, the main body taking its place.*

The nature of the country may cause the line of observation and the line of resistance to be practically the same.

It is also possible for the line of resistance to be in advance of the line of observation; for example, a low range of hills crossing the enemy's line of advance might be occupied by placing trenches along the

foot to secure a grazing fire, sentinels to watch for the enemy's approach being posted along the crest in rear. At night the front of such a position is covered by patrols.

302. Changes for the night. In civilized warfare, it is seldom necessary to draw the outpost closer to the main body at night in order to diminish the front; nor is it necessary to strengthen the line of observation, as the enemy's advance in force must be confined to the roads. *The latter are therefore strongly occupied, the intervening ground being diligently patrolled.*

In very open country, or in war with savage or semi-civilized people familiar with the terrain, special precautions are necessary.

303. Advance cavalry. By day, the advance cavalry reconnoiters and forms a screen in advance of the line of observation. If there is independent cavalry in front (bodies far in front under orders of the highest commander only), the advance cavalry maintains connection therewith and reconnoiters only where necessary. At night, however, that the horses may have needed rest and because the work can be better done by infantry, the greater part of the cavalry is usually withdrawn in rear of the supports, generally joining the reserve, small detachments being assigned to the supports for patrolling, or detached posts at a distance.

With efficient cavalry in front, the work of the infantry on the line of observation is much reduced.

304. Supports. The supports comprise about one-half the infantry of the outpost. They are numbered from right to left. The section of the line of resistance which each is to occupy is given in the outpost order.

Support Commander—As each support arrives upon the ground it is to occupy, its commander (who should precede the support when practicable and make a rapid examination of the ground) adopts temporary measures for security, and sends out observation groups, varying in size from four men to a platoon, to watch the country in the direction of the enemy. These groups are called *outguards* and are sufficient in number to cover the front of the supports and to connect where necessary with the outguards of the adjoining supports. The line occupied by the outguards is the *line of observation*.

After establishing the outguard the commander selects a defensive position on the general line of resistance, where he not only commands the approaches but can give assistance to the adjoining supports, and he gives instructions in regard to the intrenchments and obstacles. He then makes a more careful reconnaissance of the section assigned him, corrects the position of the outguards if necessary, gives them

instructions as to their duties in case of attack, or when strangers approach their posts, points out lines of retreat in case they are compelled to fall back to the supports, selects if necessary, places for additional posts to be occupied at night or during fog, sees that suitable connections are made between his and the adjoining outguards, and between his and the adjoining supports, and questions subordinate commanders to test their grasp of the situation and knowledge of their duties. On returning to the support he sends a report with a *sketch* to the outpost commander, showing the dispositions made.

After the line of observation has been established, the support stacks arms and the men are permitted to remove their equipments, except cartridge belts.

One or more sentinels are posted over these supports, and they guard the property and watch for signals from the outguards.

Fires are concealed as much as possible and the messing is done by reliefs.

Mounted messengers ordinarily do not unsaddle; they rest, water and feed as directed.

305. Outguards. *Outguards vary in size from four men to a platoon, but are no larger than necessary to watch the country, drive back small hostile patrols, and furnish reliefs for the sentinels. They are numbered from right to left for each support. Their duty is to maintain uninterrupted observation of the ground in front and on the flanks; to report promptly hostile movements and other information relating to the enemy; to prevent unauthorized persons from crossing the line of observation; to drive off small parties of the enemy, and to make temporary resistance to larger bodies. Outguards of eight men are convenient, as they furnish, besides the commander, relief for double sentinels and an extra man for messenger duty and to assist in patrolling.*

When an outguard reaches the line of observation, it takes a concealed position where the men are allowed to rest, and posts one or more sentinels a few yards in advance to overlook the country. Single sentinels are used in open country in the day time; double sentinels in close country, in thick weather, at night or when special vigilance is necessary.

The intervals between outguards and their distances from the supports depend upon the situation and the nature of the ground. In small outposts the distance from support to outguard is from 400 to 800 yards. The line of observation is not necessarily continuous, but ground over which the enemy could approach must be carefully guarded. At

night it may be necessary to push one or more of the outguards farther to the front.

When necessary, outguards patrol along the line of observation between the posts; *patrolling to the front is performed from the support*. Communications with adjoining outguards and with the support is maintained by means of signals or messengers.

When resting, members of the outguard keep their weapons in position for immediate use, and do not remove their equipments. Fires are not permitted, unless in cold weather they become necessary, and then they must be concealed.

The outpost of a small command may consist of outguards only, without supports or reserve, part of the main body remaining on the alert.

306. Sentinels. If practicable, troops on outpost duty are concealed, and all movements made so as to avoid observation by the enemy; sentinels are posted so as to have a clear view to the front, and if practicable, to be able, by day, to see the sentinels of the adjoining outguards. Double sentinels are posted near enough to each other to be able to communicate easily in ordinary voice.

Sentinels are generally on duty two hours out of six. For every sentinel and for every patrol there should be at least three reliefs; therefore, one-third the strength of the outguards gives the greatest number of men that should be on duty as sentinels and patrols at one time.

Skillful selection of the posts of sentinels increases their field of observation. High points, under cover, are advantageous *by night as well as by day*, they increase the range of vision and afford greater facilities for seeing lights and hearing noises. Observers with good field glasses may be placed on high buildings, on church steeples or in high trees.

Glittering objects on uniform or equipment should be concealed. It is seldom necessary to fix bayonets, except at night, in dense fog, or in very close country.

Reliefs, visiting patrols, and inspecting officers, approach sentinels from the rear remaining under cover if possible.

307. The instructions given a sentinel on the line of observation embrace the following:

a. *Where the enemy is or is supposed to be and the direction from which he may be expected to come; the names of villages, streams and prominent features in sight and where the roads lead.*

b. *The number (if any) of his post, and the number of his and the adjoining outguards; the position of the support; the line of retreat*

to be followed if the outguard is compelled to fall back; the position of advance detachments and whether friendly patrols are operating in front.

c. He watches to the front and flanks without intermission, and devotes special attention to unusual or suspicious occurrences; if he sees indications of the enemy, he at once notifies the commander of the outguard; in case of imminent danger, or when an attack is made, he gives the alarm by firing rapidly.

d. By day, officers, noncommissioned officers and detachments recognized as parts of the outposts, and officers known to have authority to do so, are allowed to pass in and out; all others are detained and the commander of the outguard notified.

e. At night, when persons approach his post, the sentinel comes to a ready, halts them and notifies the outguard commander; the latter challenges, learns who they are, and acts according to circumstances.

f. Individuals who fail to halt, or otherwise disobey a sentinel, are fired upon after a second warning, or sooner if they attempt to attack or escape.

g. Deserters are required to lay down their arms, and a patrol is sent out to bring them in. Deserters pursued by the enemy are ordered to drop their arms and an alarm is given; if they fail to obey they are fired upon.

h. Bearers of flags of truce and their escorts are halted and required to face outwards; they are then blindfolded and disposed of in accordance with instructions from the support commander.

i. At night a sentinel stands practically in the same spot, moving about for purposes of observation only; he does not sit or lie down unless authorized to do so. In the day time he makes use of natural or artificial cover and assumes such positions as give him the best field of view. He informs passing patrols of what he has seen. His weapon is habitually loaded and locked and carried at will.

(Note: Troops on outpost duty pay no compliments and soldiers salute only when they address, or are addressed by a superior.)

308. Detached posts. Detached posts are practically the same as the supports of an outpost, but occupy positions at some distance from the general line of resistance. They may be sent out to hold points which are of importance to the outpost cavalry, such as a ford or a junction of roads; or to occupy positions especially favorable for observation, but too far to the front to be included in the line of observation; or to protect flanks of the outpost position. Such posts are generally established by the outpost commander, but a support commander might find it necessary to establish a post practically detached from the rest of his command.

Special orders are given the commander of a detailed post by the officer sending him out.

309. Reserve. The reserve forms a general support for the line of resistance. It is therefore centrally located near the junction of roads coming from the direction of the enemy, and in concealment if practicable.

Of the troops detailed for outpost duty about one-half of the infantry, generally all of the artillery, and the cavalry not otherwise employed, are assigned to the reserve.

The arms are stacked and the equipments (except cartridge belts) may be removed. Roads communicating with the supports are opened.

When necessary, the outpost order states what is to be done in case of attack, designates places of assembly and provides for interior guards. Interior guards are posted in the camp of the reserve or main body to maintain order, and furnish additional security. Additional instructions may be given for messing, feeding, watering, etc. In the vicinity of the enemy or at night a portion of the infantry may be required to remain under arms, the cavalry to hold their horses, cinchas loosened, the artillery to remain in harness, or take up a combat position.

In case of alarm, the reserve prepares for action without delay, and word is sent to the main body. In combat, the reserve reinforces the line of resistance, and if unable to check the enemy until the arrival of the main body, delays him as much as possible.

The distance of the reserve from the line of resistance varies, but is generally about half a mile; *in outposts of two companies or less this distance may be as small as 300 yards.*

The distance from the main body to the reserve varies with the size of the former, the nature of the terrain, situation, etc.

310. Communication. Communication between the parts of an outpost, and between the reserve and the main body, is maintained by wire, signals or messenger service.

311. Outpost patrols. Outpost patrols are divided into those which operate between the lines and those whose duty lies principally within the lines. The former, called *reconnoitering patrols*, scout in the direction of the enemy; the latter, called *visiting patrols*, maintain communication between the parts of the outpost and supervise the performance of duty on the line of observation.

Reconnaissance should be continuous. The scouts and detachments of cavalry remain in contact with the enemy, or at least push for-

ward to a considerable distance; more detailed reconnaissance by infantry patrols in the foreground must not be neglected.

312. Reconnoitering patrols are composed of at least two men and a skillful leader who, in important cases, should be an officer. They obtain information, ascertain the presence of the enemy or discover his approach.

All patrols when they cross the line of observation, inform the nearest sentinel of the direction in which they are to advance; on their return they similarly report what they have seen of the enemy; signals are agreed upon so that they can be recognized when returning.

Any ground near the line of observation which might afford cover for troops, or for scouts or spies, and the approach to which can not be observed by sentinels, is searched frequently by patrols.

Definite information concerning the enemy is reported at once. Patrols fire only in self-defense or to give the alarm.

Supports on the flank of the outpost position patrol the country on the exposed flanks.

313. Visiting patrols usually consist of a noncommissioned officer and two or three privates. They are sent out by the support every hour or two to the outguards and adjoining supports. They examine suspicious points too distant for the sentinels to inspect, relieve sick or wounded sentinels, and take charge of detained persons.

Visiting patrols should not march in the open and thereby expose the position of sentinels.

314. Examining posts. An examining post is a small detachment under the command of an officer or a noncommissioned officer, stationed at some convenient point to examine strangers brought in by the outguards or patrols. When they are used, strangers approaching the line of observation are passed along the line to an examining post.

No one except the commander is allowed to speak to persons brought to an examining post. Prisoners and deserters are at once sent under guard to the rear.

315. Relieving the outpost. Ordinarily outposts are not kept on duty longer than twenty-four hours. In temporary camps or bivouacs they are generally relieved every morning. After a day's advance the outpost for the night is usually relieved the following morning when the support of the new advance guard passes the line of resistance. In retreat the outpost for the night usually forms the rear guard for the following day, and is relieved when it passes the line of observation of the new outpost. Evening twilight and shortly before dawn are hours of special danger.

Outguards that have become familiar with the country during the day time should remain on duty that night. Sentinels are relieved once in two hours, or oftener, depending on the weather. The work of patrols is regulated by the support commander.

Commanders of the various fractions of an outpost turn over their instructions and special orders, written and verbal, to their successors, together with the latest information of the enemy, and a description of the important features of the country. When practicable the first patrols sent out by the new outpost are accompanied by members of the old outpost who are familiar with the terrain. When relieved the old outguards return to their supports, the supports to the reserve and the latter to the main body; or, if more convenient, the supports and reserves return to the main body independently, each by the shortest route.

When relieved by an advance guard, the outpost troops ordinarily join their units as the column passes.

316. Cavalry outpost. Independent cavalry covering a command or on special missions, and occasionally the advance cavalry of a mixed command, bivouac when night overtakes them, and in such cases furnish their own outposts. The outposts are established, in the main, in accordance with the foregoing principles, care being taken to confine outpost work to the lowest limits consistent with safety. No precaution, however, should be omitted, as the cavalry is generally in close proximity to the enemy, and often in territory where the inhabitants are hostile.

The line of resistance is occupied by the supports, the latter sending out the necessary outguards and patrols. Each outguard furnishes its own vedettes (mounted sentinels), or sentinels. Due to the mobility of cavalry, the distances are generally greater than in an outpost for a mixed command. An outguard of four troopers is convenient for the day time, but should be doubled at night, and at important points made even stronger. The sentinels are generally dismounted their horses being left with those of the outguards.

Mounted cavalry at night can offer little resistance; the supports and outguards are therefore generally dismounted, the horses under cover in rear, and the positions strengthened by intrenchments and obstacles. By holding villages, bridges, defiles, etc., with dismounted rifle fire, cavalry can greatly delay a superior force.

There should always be easy communications along the line of resistance to enable the cavalry to concentrate at a threatened point.

A support of one squadron covers with its outpost a section rarely longer than two miles.

As such a line is of necessity weak, the principal reliance is placed on distant patrolling. If threatened by infantry, timely information enables the threatened point to be reinforced, or the cavalry to withdraw to a place of safety. If there is danger from hostile cavalry, the roads in front are blocked at suitable points, such as bridges, fords, defiles, etc., by a succession of obstacles and are defended by a few dismounted men. When compelled to fall back these men mount and ride rapidly to the next obstacle in rear and there take up a new position. As the march of cavalry at night is, as a rule, confined to roads, such tactics seriously delay its advance.

In accordance with the situation and the orders they have received, the support commanders arrange for feeding, watering, cooking, resting and patrolling. During the night the horses of the outguards remain saddled and bridled. During the day time cinchas may be loosened, one-third at a time. Feeding and watering are done by reliefs. Horses being fed are removed a short distance from the others.

Independent cavalry generally remains in outpost position for the night only, its advance being resumed on the following day; if stopped by the enemy it is drawn off to the flanks upon the approach of its own infantry.

317.

OUTPOST PROBLEMS

(See Fort Leavenworth map in pocket at back of book).

Situation.

A Blue force, companies A and B, 1st Infantry, under Captain A, in hostile country, is covering the Rock Island Bridge and camped for the night April 20-21 on the south slope of Devin ridge (*rm'*). The enemy is moving northward from Kansas City (30 miles south of Leavenworth). At 3:30 P. M. Captain A receives a message from Colonel X at Beverly (2 miles east of Rock Island Bridge) (*gp'*), stating that two or three companies of hostile infantry are reported five miles south of Leavenworth at 2:30 P. M. No enemy are west of Leavenworth. Captain A decides to place one platoon on outpost.

Required, 1. Captain A's order.

Answer. Verbally. "Two or three Red companies were 5 miles south of Leavenworth at 2:30 P. M. today. No enemy is west of Leavenworth. We will camp here. 1st Platoon, "A" company, under Sergeant A, will form the outpost, relieving the advance guard (2nd platoon Co. A). The line Pope Hill (*sm'*)—Rabbit Point (*tn'*) will be held. Detached posts will be placed on Hill 880, west of Merritt Hill

(*rl'*), and on Engineer Hill (*ql'*). In case of attack the outpost line will be held.

"The baggage will be at the main camp.

"Messages will reach me on Devin Ridge (*rm'*)."

Issued verbally to officers and Sergeant A.

Required, 2. Give verbatim (word for word) the order issued by Sergeant A.

Answer. "Two companies of the enemy were 5 miles south of Leavenworth at 2:30 P. M., today. Our camp is to be here. This platoon will be the outpost on the line Rabbit Point (*im'*)—Pope Hill (*sm'*)."

"The right support 1st section, less 1 squad, under Sergeant B, will take position north of Pope Hill and cover the following front: the ravine (XIX—Merritt Hill) west of Grant avenue to the ravine about midway between Grant Avenue and Rabbit Point (*tn'*).

"The left support, 2nd section less 1 squad under Sergeant H, will take position on north slope of Rabbit Point and will cover the following front: the ravine midway between Grant Avenue and Rabbit Point to Missouri River.

"Corporal D you will take the 8 men of your squad and form a detached post on Engineer Hill (*qk'*).

"Corporal E, take your squad and form a detached post on Hill 880 west of Merritt Hill (*rl'*).

"If attacked hold your front. Each support and detached post will entrench.

"Send messages to me at right support."

The outpost moves out, each support and detached post separately, without throwing out covering patrols, because the advance guard is now holding the front. There is no reserve.

Required, 3. What does Sergeant A do now?

Required, 4. What does Sergeant B do as soon as he reaches Pope Hill?

(Note: During the remainder of the afternoon one man up in a tree on Grant Avenue will be the only observing post necessary for this support. At night an outguard would be placed on Grant Avenue with continuous patrols along the front, because the open ground furnishes easy approach to the enemy. A post of 4 men might also be placed on the bridge over Corral Creek (*um'*).

Required, 5. The location of supports and the main body of detached post on Engineer Hill.

Required, 6. What patrolling would be done from the left support?

CHAPTER XVI

FIELD ORDERS OF ENLISTED MEN

318.

PLATOON LEADERS

My field orders are—

Integrity of squads in battle. In battle I will do all I can to preserve the integrity of squads; I will designate new squad leaders to replace those disabled, and will organize new squads when necessary.

Fire control. On the firing line I will be on the lookout for commands and signals from the captain; I will observe the target and the effect of the fire and will also observe and regulate the rate of fire. When the target is favorable, I will increase the fire; when it is unfavorable, I will decrease the fire, and when the enemy disappears I will stop firing.

Teamwork back of firing line. I realize that, in order to have proper fire direction and control, *teamwork* back of the firing line,—that is, between the captain and the platoon leaders and between the platoon leaders and the squad leaders,—is of vital importance. I also realize that such teamwork is impossible without the best possible *communication* between the captain and the platoon leaders and between the platoon leaders and the squad leaders. Therefore, I will at all times endeavor to keep in sight of both the captain and the squad leaders of my platoon. Should I, for any reason, have to lose sight of the captain, I will designate a guide or someone from the firing line to get between the captain and myself and keep us both in view, so as to be able to transmit to me at once any signals from the captain.

Increasing rate of fire in platoon rushes. When the company is advancing by platoon rushes, I will always, in order not to decrease the volume of our fire, increase the rate of fire of my platoon, from the time that the adjoining platoon ceases firing preparatory to rushing forward, until it has completed its rush and resumed firing.

Announcement of new range. When my platoon advances by rushes, I will, as soon as the platoon is halted, announce the range of the new position, obtaining it, if practicable, from the platoon that preceded me.

Ammunition supply. I will, through the squad leaders of my platoon, keep tab on how the ammunition is going. When it gets down to about 100 rounds per man, I will so notify the captain by opening

and extending the five fingers of the hand twice (the five fingers signify 5 times 10, or 50, and twice that being 100). When it gets down to about 50 rounds per man, I will again notify the captain by opening and extending the five fingers of the hand once.

Sending out connecting files. In sending out connecting files of the advance guard I will always instruct them from what element they are to take and maintain their distances.

Signal lookouts. When advance or rear guard connecting files or flanking parties are sent out from my platoon, I will always designate someone in the platoon to act as a lookout for signals from such connecting files or flanking parties.

Teamwork. I realize the value of TEAMWORK in the military business and I appreciate the force of what is said on the subject in paragraph 322, under the orders of Privates. Therefore, in battle, in camp, on the march, and at all other times, I will see that the guides, squad leaders, buglers, and privates around me carry out their field orders, and that they comply with the known wishes and desires of the company commander, and I will myself obey and carry out so much of the field orders of guides, squad leaders, and the privates as may at any time apply to me.

Importance of platoon leader. I am fully aware of the fact that in modern war the platoon leader occupies a most important position,—a position as important as that occupied by a captain up to and during the Civil War. I also know that in order to make good as a platoon leader, a man must be forceful and efficient, and must exercise initiative, good judgment, and energy, and not be afraid to swim in deep water. In other words, he must be a “live wire,” and that is exactly what I am going to make every effort to be, trying with all my might,—with my whole body and soul.

319.

GUIDES

My field orders are—

Integrity of squads in battle. In battle I will endeavor, by assisting the officers and platoon leaders and otherwise, to preserve the integrity of squads.

Watching firing line. On the firing line I will watch the line, observing the firing and checking every breach of fire discipline¹ that I see.

¹ By fire discipline is meant taking advantage of cover; care in setting the sight, and delivery of fire; constant attention to the orders of the leaders, and careful observation of the enemy; an increase of fire when the target is favorable, and a cessation of fire when the enemy disappears; economy of ammunition.

(Pars. 418-419, Small-Arms Firing Manual.)

Teamwork back of firing line. I realize the truth of what is said in paragraph 3, above, about the importance of teamwork back of the firing line and I will assist all I can in keeping up communication between the captains and my platoon leader, and between the platoon leader and the firing line, using initiative and common sense to accomplish that end.

Teamwork in general. I know the great value of TEAMWORK in the military business and I appreciate the force of what is said on the subject in paragraph 322, under the orders of Privates. Therefore, in battle, in camp, on the march, and at all other times, I will see that the squad leaders, buglers, and privates around me carry out their field orders, and that they comply with the known wishes and desires of the company commander, and I will myself obey and carry out so much of the field orders of squad leaders and the privates as may at any time apply to me.

320.

SQUAD LEADERS

My field orders are—

Integrity of the squad. In battle I will do all I can to preserve the integrity of my squad.

Signals from platoon leader. I will be constantly on the alert for commands and signals from my platoon leader and when necessary will transmit them to the members of my squad.

Observing the squad. I will observe the conduct of my squad, abate excitement, and assist in enforcing fire discipline.

Firing. I will participate in the firing, but not to such an extent as to interfere with the proper supervision and control of my squad.

Increasing rate of fire in squad rushes. When the advance is being made by squad rushes, I will always, in order not to decrease the volume of our fire, increase the rate of fire of my squad, from the time that the adjoining squad ceases firing preparatory to rushing forward, until it has completed its rush and resumed firing.

Announcement of new range. When my squad advances by rushes, I will, as soon as the squad is halted, announce the range of the new position, obtaining it, if practicable, from the squad that preceded me.

Ammunition supply. I will keep tab on how the ammunition in my squad is going, instructing each man to inform me when his ammunition gets down to 100 rounds and again when he has only 50 rounds left. When the majority of the members of the squad have so reported in each case, I will notify my platoon leader by holding up my

hand, and opening and extending my five fingers twice to indicate 100 rounds, and once to indicate 50 rounds (the idea being that the five fingers signify 5 times 10, or 50).

Posting sentinels on outpost. When posting a sentinel on outpost, I will always give him the following information:

- (a) The number of his post and the number of his outguard.
- (b) The location of the adjoining sentinels.
- (c) The numbers of the adjoining outguards.
- (d) The location of the support of his outguard and the line of retreat to follow if compelled to fall back.
- (e) Exactly what to do if the enemy appears and if attacked.
- (f) Everything I know about the enemy; the names of villages, mountains, streams, and other prominent features in sight; where all the roads in sight lead to.

If unable to impart all of the above information when the sentinel is posted, I will give as much as I know, and the rest as soon as possible, getting it from the commander of our support.

Teamwork. I know how invaluable TEAMWORK is in the military game, and I appreciate the force of what is said on the subject in paragraph 322, under the orders of Privates. Therefore, in battle, in camp, on the march, and at all other times, I will see that the buglers and privates around me carry out their field orders, and that they comply with the known wishes and desires of the company commander, and I will myself obey and carry out so much of the field orders of the privates as apply to me.

321.

BUGLERS

My field orders are—

Post in deployment. Whenever the company is deployed, I will at once join the captain and remain with him until further orders.

Assisting the captain. I will assist the captain by observing the enemy, the target, and the fire-effect, by transmitting the commands or signals, and by watching for signals.

In case the company is acting in battalion, I will be on the constant lookout for orders and signals from the battalion commander, which I will at once transmit to the captain.

Signals. I will memorize the following code of signals, and in case I am required to make them, I will conceal them from the enemy's view:

<i>Letter of alphabet</i>	<i>If signaled from the rear to the firing line</i>	<i>If signaled from the firing line to the rear</i>
A M	Ammunition going forward ...	Ammunition required.
C C C	Charge (mandatory at all times).	Am about to charge if no instructions to the contrary.
C F	Cease firing	Cease firing.
D T	Double time or "rush"	Double time or "rush."
F	Commence firing	Commence firing.
F B	Fix bayonets	Fix bayonets.
F L	Artillery fire is causing us losses	Artillery fire is causing us losses.
G	Move forward	Preparing to move forward.
H H H	Half	Half.
K	Negative	Negative.
L T	Let it	Let it.
O	What is the (R. N., etc.)? Interrogatory.	What is the (R. N., etc.)? Interrogatory.
(Ardois and semaphore only)		
(All methods but ardois and semaphore)	What is the (R. N., etc.)? Interrogatory.	What is the (R. N., etc.)? Interrogatory.
P	Affirmative	Affirmative.
R	Acknowledgment	Acknowledgment.
R N	Range	Range.
R T	Right	Right.
S S S	Support going forward	Support needed.
S U T	Suspend firing	Suspend firing.
T	Test	Test.

Carrying signal flag. I will always carry the prescribed signal flags in the field.

Fix bayonets. If the command to fix bayonets is sounded, I will repeat it.

The charge. When the order to charge is sounded I will at once repeat it.

Teamwork. I realize the importance of TEAMWORK in the military business, and I appreciate the force of what is said on the subject in paragraph 322, under the orders of Privates. Therefore, in battle, in camp, on the march, and at all other times I will faithfully and willingly carry out the orders of the company commander, and will comply with his known wishes and desires. I will also obey as much of the field orders of the privates as apply to me.

322.

PRIVATES

In Battle

My battle orders are—

Loading pieces. Having once loaded my piece, I will, by inserting fresh clips when the magazine is exhausted keep it loaded with

out further command until the command *unload or inspection arms* is given (Par. 134, I. D. R.)

Straggling. I will not straggle, nor will I under any circumstances skulk, but, at the command to advance, I will always do so *at once*.

Advancing and halting. In advancing by rushes, or any other way, I will always endeavor to be the first man to start the advance, and also the first man to drop down at the signal or command to halt. If not right up on the line when I drop down, I will get there by crawling. I am aware of the fact that in advancing by rushes the last men to reach the new position are exposed to the enemy's fire that much longer, and, consequently, are more apt to get hit than the others.

Not to carry wounded. I will not endeavor to carry any wounded to the rear. That is the business of the litter-bearers. My business is to remain on the firing line and help with my rifle.

Changing sight. I will not fail to change my sight when new ranges are announced, nor will I forget to change my sight when advancing by rushes, whether or not the new range is announced.

Replenishing ammunition supply. I will never lose an opportunity to replenish my ammunition supply from the belts of the dead and wounded. The time may come before the fight is over when ammunition will be worth a hundred times its weight in gold.

Husbanding ammunition. Especially in the first stages of a fight, I will husband my ammunition, and not waste any of it by reckless firing; for, it is impossible to say what may develop later on.

Rate of fire. In the absence of any other instructions from my company commander, squad, or platoon leader, I will, if I have received suitable training in target practice and the target is a good one, fire ordinarily at about the following rate:

200 yards	10 shots	500	7.5 shots	800	5 shots
300 yards	per	600	per	900	per
400 yards	minute	700	minute	1000	minute

Greater range than 1000 yards, 3 shots per minute.

If the target should be especially favorable, because of its size and conspicuousness, I will exceed the above rates of fire. However, on the other hand, if the target is very indistinct, or if I have not received suitable training in target practice, I will fire at a less rate than stated above, not exceeding about 6 shots per minute at the closest ranges (Par. 209, Small-Arms Firing Manual.)

Notifying squad leader of ammunition left. When I have only 100 rounds of ammunition left, I will so notify my squad leader, and I will notify him again when I have only 50 left.

Use of rest. I will use a rest for my rifle whenever I can. It will improve my shooting.

Prompt obedience to orders. I will obey at once all the commands and orders of my squad leader, and my platoon leader.

In case of surprise, excitement, or confusion. In case of surprise, excitement, or confusion, I will at once listen for the orders of my officers and noncommissioned officers, and I will obey them immediately and implicitly.

Cover. I will take advantage of cover, but, if by so doing, I cannot see the enemy, I will then get where I can see him; for, it is much more important that I should be able to see the enemy so as to shoot at him, than it is for me to conceal myself from his sight. I will always take special pains to avoid the sky-line (the tops of hills and ridges); for, a man on the sky-line looms up a clear, distinct target.

Conduct on firing line. When on the firing line, I will be on the lookout for signals and orders from my squad leader; I will exercise proper care in setting my sights and delivering my fire; I will aim deliberately; if necessary to fire rapidly, I will do so by loading as rapidly as I can, and not by hurrying through the aiming, which I will *always* do deliberately; I will observe the enemy carefully, increase my fire when the target is favorable, and cease firing when the enemy disappears; I will not neglect a target because it is not very distinct.

Fire distribution. I realize that it is of the greatest importance that the fire of my platoon should be distributed over the entire target assigned to the platoon; for, any part of the target not covered by fire represents a number of the enemy who are permitted to fire at us coolly and effectively. In other words, all parts of the target assigned my platoon are equally important. Therefore, in order to insure proper fire distribution, I will always fire at that part of the target which corresponds to the position I am occupying in my platoon. That is to say, if in the center of my platoon, I will fire at the center of the target; if on the right of my platoon, I will fire at the right (as I face it) of the target; if in the right center of my platoon, I will fire at the right center (as I face it) of the target, etc. This is represented by the following diagram, the points A', B', C', etc., representing the parts of the hostile target at which the men occupying the positions A, B, C, etc., in the platoon would fire:

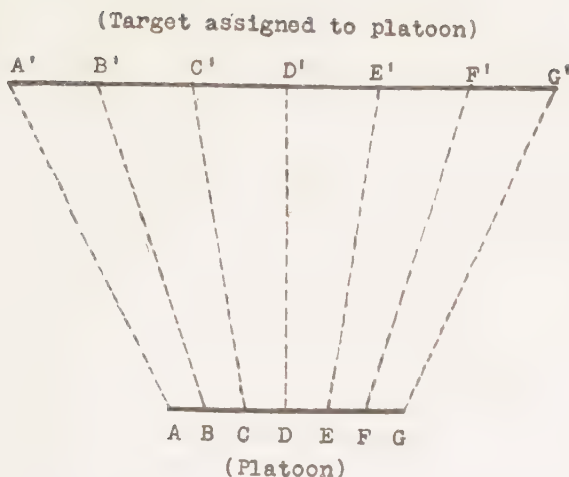


Fig. 1

Shooting at officers. (Sharpshooters and expert riflemen.)

I will be on the lookout for the enemy's officers and will fire at every one I see.

Orders from squad leader. When firing on the firing line I will keep my eyes on the target, and will obey promptly all commands received from my squad leader, who is the one to give me orders when I am firing on the firing line.

Long blast of whistle. When firing on the firing line I will AT ONCE suspend firing upon hearing a LONG blast of my company commander's whistle or my platoon leader's whistle.

Signals from squad leader. With the exception of the LONG whistle blast given by the company commander or platoon leader, I will pay no attention to signals of anyone except to those of my squad leader.

Ammunition in bandoleers. I will use the ammunition in bandoleers first. I will keep thirty (30) rounds in the right pocket section of my belt as a reserve to be used only when ordered by an officer. (Par. 551, "Infantry Drill Regulations.")

Reenforcing firing line. When reenforcing the firing line I will find out at once the range and target from the men already there.

Separation from squad. I will at all times make every possible effort not to get separated from my squad, but should I unavoid-

ably become separated, I will immediately try to rejoin it. Should I fail in this, I will then join the nearest squad and put myself under the orders of its leader. Should I not be able to do this, and thus find myself without a leader for the time being, I will not lose my head, but will go on fighting on my own hook, remembering that the only way for us to win the battle is for each and every man to *FIGHT, FIGHT, FIGHT* for all that he is worth. To give up fighting will only make it just that much easier for the enemy to kill me and my comrades.

If squad leader is killed. In case our squad leader is killed or wounded or becomes separated from the squad, if I am the oldest soldier in the squad, I will at once assume command of it and will take the proper position of squad leader.

Fixing bayonets. When the order or signal is given to fix bayonets if I was in the *front* rank before deployment, I will at once suspend firing, quickly fix bayonet, and immediately resume firing. If I was in the rear rank before deployment, I will increase my rate of fire while the man on my right is fixing his bayonet, so that there will be no decrease in our volume of fire, and as soon as he has fixed his bayonet and commenced to fire, I will at once suspend firing, quickly fix bayonet and immediately resume firing. (Based on Par. 318, Infantry Drill Regulations.)

Charging. At the order or signal to charge, I will spring forward shouting, running with my bayonet at charge, and will close in with the enemy, using my bayonet with aggressiveness and vigor. (Par. 319, Infantry Drill Regulations.)

After the charge. After the charge, if separated from my squad, I will endeavor to locate it at once, and if I can't find it, I will promptly join some other squad, one of my own company, if possible.

Teamwork. I realize that in the struggle of battle, like in any other contest in which a number of people are taking part, TEAMWORK is absolutely necessary to success. By TEAMWORK, I mean cooperation—each man doing everything he can to help out those above him, by carrying out their wishes and orders promptly, willingly, loyally, and efficiently, and by doing of his own accord and initiative anything that will help to accomplish the object that he knows those above him are trying to accomplish. Therefore, appreciating as I do the great value and importance of TEAMWORK I will always bear in mind, and will never let a chance go by without contributing my share to TEAMWORK in my company.

323.**Night Operations**

My orders in night operations are:

Not making noise. On marches and elsewhere I will not talk or make other noise, but will preserve absolute silence.

No smoking. I will not smoke nor strike matches, because the light might be seen by the enemy.

Alertness for signals and orders. I will be constantly on the lookout for signals and orders from my officers and noncommissioned officers, and I will obey at once all signals and orders.

Firing. Under no circumstances will I ever fire in a night operation unless ordered by a superior, or unless I am placed in a position where I must fire in order to give the alarm.

If ordered to fire, I will either kneel, sit, or lie down and will be sure to hold my piece parallel to the ground, so as not to fire high. I will tie a piece of white cloth around the muzzle of my rifle to assist me in sighting.

Bayonet. I realize that firing is of but little value in night attacks, and that we must depend upon the bayonet, which should be used aggressively and vigorously, and that is how I am going to use mine.

324.**On Outpost**

My orders as a sentry outpost are:

Number of post. The number of my post (if any) is No. —, of Outguard No. —. If when posted I am not told the number of my post and outguard I will ask for them.

Adjoining outguards and sentinels. Outguard No. —, is on my right, and No. —, on my left.

The next sentinel on my right is posted — (indicate where he is posted), and the next sentinel on my left is posted — (indicate where he is posted).

If when I am posted I am not given the numbers of the adjoining outguards and told where the sentinels on my right and left are posted, I will ask for information

Location of support. The support of this outguard is located..... (define location). If when posted I am not told the location of the support of my outguard, I will ask for it.

Line of retreat. If compelled to fall back, I will retreat (state line of retreat). If when posted I am not told by what line of retreat if compelled to fall back, I will ask to be informed

Location of own troops in front. (If any.) There are —— advance detachments in front of me, located as follows: (give exact location), and —— of our patrols are operating in my front.

Friendly patrols crossing outpost line. Should any of our patrols attempt to cross the outpost line near me without telling me who they are, where they are going, about how long they expect to be out, and by what way they will return, I will halt them and get this information before allowing them to proceed.

What is known of enemy. The enemy is (or is supposed to be) (define location as accurately as possible) and if he approaches, it is thought he will do so by way of (state direction from which the enemy is expected).

Villages, mountains, etc., in sight. I know the names of all the villages, mountains, streams, and other prominent features in sight. The village over yonder (pointing) is ——; that high mountain there (pointing) is called ——, etc.

Where roads lead to. I know where all the roads in sight lead to. For example, that road (pointing) leads to ——; this other road (pointing) goes to ——, etc.

Constant alertness. I will be constantly on the alert, watching to the front and flank, and will pay special attention to unusual or suspicious noises or occurrences.

Concealment. I will always conceal myself from view. If there is no natural means of concealment, I will place branches, twigs, or other suitable material in front of me.

What to do if enemy appears. If I see any indications of the enemy, I will at once notify the outguard commander. In case of great and immediate danger or in case of attack, I will give the alarm by firing my piece rapidly. I will always make up my mind beforehand just exactly what else I would do in case the enemy should approach, and if there is any doubt at all in my mind about what I should do, I will ask the commander of my outpost.

Persons allowed to pass. Officers, noncommissioned officers, and detachments that I recognize as parts of the outposts, and officers that I know have authority to do so, will be allowed to pass in and out of the outpost line. I will detain all others and notify the commander of the outguard.

Firing upon persons failing to halt. I will fire upon individuals or detachments who fail to halt, or otherwise disobey me after a *second* warning, or sooner, if they attempt to attack or escape.

Deserters. I will halt deserters approaching, order them to lay down their arms, and notify the commander of the outguard. I will order deserters pursued by the enemy to drop their arms and will at once notify the commander of the outguard. Should deserters fail to lay down their arms after a *second* warning, I will fire upon them.

Flags of truce. I will halt bearers of flags of truce, cause them to face about, and will notify the commander of the outguard.

Saluting. I will salute only when I address, or am addressed by officers.

Challenging at night. At night I will allow persons to approach fairly close before challenging, and I will challenge in a low voice so as not to reveal my position to any of the enemy that may be around. In case I have been instructed to use prearranged signals, such as striking the butt of rifle so many times, whistling, etc., I will, of course, use such signals instead of challenging by word of mouth.

Firing at night. I will never fire at night unless I can clearly see the enemy and I am sure I can hit him, or unless it be absolutely necessary to fire in order to give the alarm.¹

What to do if in doubt. In case of doubt as to what to do, I will call for the commander of the outguard.

325.

Advance and Rear Guards

My orders when acting as a connecting file of an advance or rear guard are—

Looking out for signals. I will be on the constant lookout for signals, which I will always transmit at once. I will transmit only such signals as I may actually receive and no others. For example, I will not transmit the signal to halt or advance just because another connecting file halts or starts to walk, but will wait until I get the actual signal to halt or to advance before passing it on.

Taking distances. Whether I take and keep my distance from the front or the rear, will depend on whether the march is regulated on the main body or on the support or reserve of the advance guard. I will always take and keep my distance from the body on which the march is regulated. If the officer or the noncommissioned officer who sends me out as a connecting file, does not tell me on which body the march is to be regulated, I will ask him.

Keeping up connection. A connecting file is so called because it "connects,"—that is, it connects the element that precedes it

¹ It is said that in the French Army in Algeria there is a rule that any sentry who fires at night, must either produce a corpse, or be able to show by blood marks that he hit the person fired at. If he can do neither, he is court-martialed for giving a false alarm.

with the element that follows it. I know that in order to do this it is necessary that the connecting file should be able to see both the preceding and the following elements all the time or very nearly all the time, losing sight of either element only when it is unavoidable and then for no longer than is absolutely necessary. Therefore, I will at all times try to keep in sight the elements that I am expected to connect. For example, in the case of a bend in the road, I will take a position on the outer side of the road, so as to keep in view both the preceding and the following elements as long as possible and will then run forward so as to resume my proper distance from the connecting file or body ahead of me. Also, when the column halts, if I am not already in a position where I can see both elements between which I am acting as connecting file, I will, if possible, place myself in such position, and keep on the constant lookout for signals from both elements. Again, in the case of a bend in the road it might, in some cases, be necessary for me to leave the road a few yards in order to keep in view of the preceding and the following elements. Furthermore, should I receive a signal from one body when I cannot see the other, I will at once run to a position from which I can see the other and transmit the signal. In short, I will use initiative and common sense to keep in sight of the two elements that I am expected to connect, and at the same time maintain as nearly as possible the proper distances between myself and these elements.

326.

Patrolling

My orders when patrolling are—

If sick before starting. If I feel sick before starting, or am weak from recent illness or other cause, I will so notify the patrol leader before the patrol starts.

Accouterments. I will see that my rifle and other accouterments are in good serviceable condition, and that there is nothing about me that shines or rattles.

Ammunition. I will have the proper amount of ammunition before starting.

Not to carry papers of value to enemy. I will be sure not to have in my possession any maps or papers that might be of value to the enemy.

Filling canteen. I will fill my canteen before starting.

Conduct. Regarding concealment, avoidance of the skyline, alertness, etc., I will carry out the instructions given in the subject of Scouting and Patrolling, pars. 208-265.

327.

On the March

My orders on the march are—

Filling canteen. I will fill my canteen before the march starts.

Shoes. I will never go on a march with a pair of new, unbroken shoes. I will always wear serviceable, broken shoes that fit properly, with good shoe laces.

Socks. I will make it a special point to wear socks that fit properly and that have no holes or rough seams.

Foot powder. If I have blisters, or get them easily, I will sprinkle the inside of my socks and shoes well with Talcum or foot powder before starting.

Care of feet. As marching constitutes the principal occupation of troops in campaign, I realize the great importance of a soldier being able to march, and, therefore, the importance of looking after his feet. I will, therefore, at all times take the best possible care of my feet.

Not to leave ranks without permission. Whether sick, or whether to get water, or for any other reason, I will never leave the ranks without permission of my company commander, and during halts I will not leave the immediate vicinity of the company without permission.

Relieving one's self during halts. Should I wish to relieve myself when the company halts, I will do so as soon as the halt is made and not wait until it is nearly over.

Not to straggle. Under no circumstances will I ever straggle, but I will always keep my proper place in the column.

Eating. I will not eat on the march.

Drinking water. Before starting on a march I will thoroughly quench my thirst. On the march I will not drink any more water than I have to in order to replace the loss by perspiration. No matter how thirsty I may be, or how plentiful the water may be, I will drink only a few small swallows at a time. Water that is drunk is absorbed at once into the blood, and if the amount is excessive, a strain is imposed upon the heart that is likely to result in faintness or muscular cramps.

Not to sit on damp ground. I will not sit on damp ground during halts. I will always place a board, twigs, grass, or something else on damp ground before sitting on it.

Resting during halts. At every halt I will at once sit down and rest, removing my pack or loosening it and resting my back against it on the ground.

Not to enter yards, houses, etc. I will not enter yards, orchards, or gardens, during halts, nor will I ever enter a house unless invited to do so by the occupants.

Falling in promptly. When the command is given to fall in after a halt, I will fall in promptly.

328.

In Camp

My orders in camp are—

Leaving camp. Upon going into camp I will not leave until I have found out from the First Sergeant what the orders are about leaving camp.

Bathing. I will bathe daily, if possible, and will pay special attention to the care of my feet.

Dry clothing. If my clothing is wet, I will always change into dry clothing when possible.

Resting. After bathing and after eating I will get all the rest I can.

Camp sanitation. Camp sanitation—that is, what we must do to take care of the health in camp—is of the greatest importance, and I will, therefore, do my share toward preserving the health and promoting the comfort of those in camp by faithfully observing the following:

I will do all I can to prevent the existence of conditions that will cause stinks and be favorable to the breeding of flies and mosquitoes, the two great carriers of disease.

I will do my part to keep my tent, the ground around it, and the company street clean. Therefore, I will not throw food, slop water, rags, paper, empty tin cans, or other trash and refuse on the ground, but will put them in the box, can, or other receptacle provided for the purpose or throw them into the kitchen incinerator (the place prepared for the burning of trash and refuse).

I will not defile the company street or camp grounds by spitting, blowing my nose, urinating, or moving my bowels thereon.

I will use the urinal tub at night and the latrine by day. If an open trench is used as a sink, I will always cover by excrement with dirt. If the sink is inclosed by a box with stool-covers, I will always put the cover down as soon as I am through, so as to keep the flies out.

I will keep the inside of my tent dry and free from odors—so, in pleasant weather I will always have my tent walls raised, and will air my blankets and extra clothing often.

I will clean my clothes daily as thoroughly as the means at hand will permit. In the absence of means to wash clothing, I will frequently expose my soiled clothes to the sun, which is an excellent germ killer.

As soon as my tent is pitched I will ditch it, and in case of rain, I will loosen the guy ropes to prevent the pegs from pulling out and the tent falling down.

No liquor in camp. I will not introduce liquor into camp.

329.

Messages

Concealing message. I will always conceal in the cuff of my shirt or elsewhere any written message that I may be carrying.

Disposition of message, if captured. If captured, I will try to destroy the message the very first chance I get.

Understanding verbal messages. When I am given a verbal message by a noncommissioned officer to carry, I will always repeat the message to the noncommissioned officer before leaving, to see that I understand it, and as I am leaving, I will go over the message several times in my own mind. If given a message by an officer, and not directed by him to repeat it, I will before leaving ask, for instance, "May I repeat the message so as to be sure that I understand it?" and, as I am leaving, I will go over the message several times in my own mind.

In General

Compliance with orders, etc. In battle, in camp, on the march, and at all other times, I will comply faithfully with all the orders, the known wishes and desires of the company commander.

What to do if captured.

(a) If I see I am going to be captured, I will, if possible throw away the bolt of my rifle, and ammunition, and should I have field glasses in my possession, I will break the lenses.

(b) Should I be taken prisoner, I will not, under any circumstances give any information about our troops, and should I be compelled to answer questions, I will give misleading answers. Nor will I talk with any of our men about our own troops, what we were doing when captured, etc., because the chances are the enemy or some of their spies will overhear my conversation. I will take advantage of the first opportunity to make my escape and get back to our troops with all the information that I can get about the enemy.

CHAPTER XVII

FIELD EXPEDIENTS—INDIVIDUAL COOKING

Camp Pot, Hook
and Poker.

The Camp Fire Crane.



Camp Broom.

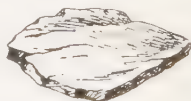
330. In the field less attention is paid to the appearance of dress, niceties of military courtesy, etc., than in garrison. Field service offers a better opportunity for *individuality*, and every man should be a "natural born hustler," bearing in mind the injunction, "The Lord helps those who help themselves."

331. A good camp lamp can be made by using clear tallow fat (fat of animals), melted down and put in an old tin can. Improvise a wick from unravelled cotton or tent canvas, put one end in can and the other end on edge of can and wire.



332. A good camp candlestick. A safe one can be improvised from a potato with a hole in it—bottom sliced off so it will stand firmly—or an old can partly filled with dirt.

333. A good dinner plate or cooking utensil, from a piece of green thick barked tree, using smooth part for food.



334. Any old tin can. Top carefully burnt out over camp fire, then scoured makes a good cup or small cooking utensil. Make handle of wire as shown in illustration.

335. A reliable camp clock. A very accurate one can be improvised by making a sun dial of a piece of stick stuck in the earth where the sun's rays can cast the shadow of the stick on the ground. You can mark the ground most accurately if one of your



party has a watch. Then the clock will serve you well, when the man with the watch is gone.

336. Don't spoil a good knife. In opening tin cans in camp, take the camp axe. Cut a cross in the center and open the cuts afterward, but not with the fingers.

337. To heat a tent without a stove. Build a camp fire near tent opening, surround it partly with a radiator of logs, bark of tree or brush, so as to throw the heat inside.



Another way. Throw into camp fire a lot of stones, the larger the better, let them get red hot, put into bucket and carry into tent, invert the bucket over them, and it will surprise you. With a change of stones in the fire you can renew and keep warm all night long,—or use camp kettle.

Still another way. (Perfectly safe if common sense is used.) Dig a pit half a bucket in size somewhere in the tent. Fill it heaping full of red hot clear coals (embers) from the camp fire, taking care no unburnt or smoky wood is therein. Now cover this with the kettle or pail. With mud, plaster up the edges, and it will keep your tent and you warm all night long. Use camp pails (iron of course).

And still another way. Dig a trench from interior of tent to a fire in a hole outside of tent, covering the trench with old pieces of tin, sod, etc. To heat all the space in the tent, dig a trench all the way through the tent, having the fire at one end of trench and the chimney at the other, both fire and chimney being, of course, outside. The hot air passing through the trench-flue will keep the tent warm.



338. In case of fire in tent. If serious, lay hold of the bottom of the bedding and put out, and with a blanket smother the fire quickly. If the fire is caught in time you can smother it.

Let the tent go, but save the outfit therein, if possible. You can improvise shelter but not the outfit so save that part first.

339. To find out correctly how the winds blow. If the wind is very light, place your finger in your mouth for a minute, moisten it, then hold in the air. The coolest side indicates the direction from which the wind blows.



340. A good fire shovel. Can be made of a piece of tin and a split stick; it is also an excellent broiler.

341. How to sleep warm. Sheets of paper, or an old newspaper sewed between two blankets, equals three blankets. A thin vest lined with paper equals two.

In cold weather, it is most important both for comfort and health that the extremities be kept warm at night. A sweater with high rolling collar, a pair of heavy woolen socks and a woolen knitted nightcap are excellent for this purpose, being equivalent to two or three blankets.

342. Chafing. If the seams of underwear chafe or gall the skin, turn inside out. Common corn starch is a most excellent talcum or chafing preventative and cure.

343. If soaking wet. If soaking wet and no dry clothes handy take off wet garments and wring them out as dry as possible—put on again,—you are less liable to take cold, and will be much warmer besides.



Camp
Fire
Tongs

344. To test the freshness of meats, game, etc. Thrust a knife blade into center of flesh—remove the blade; your nose to the knife blade will do the rest. Meat is often fresh outside when the inside is not. Your nose can't tell inside—the knife blade can.

345. For washing flannels and woolens. Don't wring out, hang them up dripping wet and they won't wrinkle up or shrink.

346. To keep fresh meats, game, etc. By hanging in old sack, sack opening downward; secure with cord, tied to legs of game; then take a few branches of leaves and cover; the rustle of these leaves will help keep the flies away and the meat cool. Fasten the bottom opening with splinters of wood, so you can get at the meat without trouble.

347. To cool water. Any old well soaked cloths, wrapped around outside of bottle or bucket will, if hung in the shade, help cool contents. Remove the cork.

Water may also be cooled by wetting the canteen and then hanging in a cool place.

348. Hot water bottle. A canteen filled with boiling water is a foot warmer (a hot water bottle for your camp bed), that insures you the warmth of an extra blanket, and is invaluable in emergencies of camp sickness.

349. Life preservers. Three or four empty canteens, tightly corked and fastened together, make a very good life preserver.

350. A good camp bed for tents, or tent carpet. Take fine ends of any branch clippings, and plenty of them. Commence at the head of tent, lay rows of them butts to the rear, in successive layers. If this is done right and carefully and ends locked with a log rolled on so as to hold end in place, an extremely soft bed is the result. Over this spread a piece of canvas or blanket.

351. If thirsty and can't find water. Place a pebble or button in the mouth and keep it there; it will surprise you with the result, and relieve that dryness entirely—try it.

352. To make a fire without matches. Take a dry handkerchief or cotton lining of your coat, scrape out a very fine lint, a few handfuls, by using the crystal of your watch, compass or spectacle, a sun glass can be made that will ignite the lint, which can be blown to fire.

Another way. Sprinkle powder of cartridge as a fuse to the cotton lint, and with the cartridge percussion cap you can easily ignite the lint, dry moss, leaves, etc.

Still another way. Take scrapings of very fine pine wood, find a piece of quartz or hard ragged rock, by using your knife or bayonet as a steel you have a practical flint and steel. If you haven't these things, use two pieces of rough, jagged stone and by striking them together sharply in slanting blows you can ignite the lint or scrapings.

353. To make a good camp lantern. From an ordinary clear glass bottle, if the bottle is long necked. Heat a piece of wire red hot, and wrap it around the part below the neck, the wide part, submerge the neck into a bucket of water it will cut the part surrounded by the hot wire as smooth and clean as if cut to order. Now wire a handle to carry it by, with a loop over the bottom, fill it full with moist dirt or sand, forming a hole therein with a round stick, insert your piece of candle in this hole, cover with a piece of old tin can top (perforated with holes) and you have a good outside camp lantern.



354. To keep matches dry. Cork a few in a small bottle.

355. To correctly ascertain the points of the compass. Face the sun in the morning; spread out your arms straight from the body—before you is east, behind you the west, to your right hand, the

south, left, north, (accurately). If the sun doesn't shine, note the tops of pine trees, they invariably dip to the north.

356. Bathing. Be careful about bathing in strange places. Don't dive; weeds or sharp rocks may be at bottom. Water that looks inviting often is full of treacherous, slimy weeds in which once caught it is almost impossible to get free. Look out for deep unseen mud holes. Better splash water over the body than to take big risks.

357. Drying clothes in cloudy weather. Build a dome-shaped work by bending twigs into a half circle, with ends in ground, over a *smoldering* fire, and place the clothes on the bent twigs.

358. Fording streams. In case of a quick-sand bottom, send in a few men on foot to find a solid place. Stakes are then driven to mark the way, and the command crosses the stream. Wagons should not stop while crossing a stream, for in case of soft bottoms, they will likely get bogged.

Mules should always be watered before starting to cross a stream—otherwise they will very likely stop to drink, and the wagon may get stuck.

It is well to remember that the shallowest water is generally found from one salient—that is, one projecting point—of the bank to another, diagonally across. The bends and hollows or re-entrants usually have the deepest water.

359. To cross an unfordable stream. If narrow, try to construct a bridge of some kind, or make a temporary crossing by felling trees opposite to each other on opposite sides.

Wagon bodies covered with canvas or wagon sheets, lashed at the ends and fastened, make good boats.

Individual Cooking

360. Importance of individual cooking. It often happens in campaign that it is impossible to have the field ranges and cooking utensils accompany the troops, and in such case each man must cook his own food in his mess kit. Also, it frequently happens that detachments operating away from their companies must do individual cooking.

All food we eat should be properly cooked, if not, stomach or intestinal trouble will result. Hence, the importance of every soldier learning how to cook in his mess kit the main components of the ration.

361. Fire. Remember that the best fire for cooking is a small, clear one, or better yet, a few brisk coals. Dig a hole in the ground with your bayonet and make your fire in it with dry wood, starting it with paper, shavings, dry leaves or dry grass.

If preferred the fire may be made between two small flat stones or bricks, care being taken to so place the stones that the draft will pass between them. The mess pan can be placed on the stones, across the fire, and the cup for boiling the coffee at the end away from the draft where it will get the most heat.

This method will, as a rule, be necessary on rocky or stony ground.

362. Recipes. The following recipes, which are based on the War Department publication, "Manual for Army Cooks," require the use of only the soldier's mess kit,—knife, fork, spoon, cup, and mess pan:

Meats

363. Bacon. Cut side of bacon in half lengthwise. Then cut slices about five to the inch, three of which should generally be sufficient for one man for one meal. Place in a mess pan with about one-half inch of cold water. Let come to a boil and then pour the water off. Fry over a brisk fire, turning the bacon once and quickly browning it. Remove the bacon to lid of mess pan, leaving the grease for frying potatoes, onions, rice flapjacks, etc., according to recipe.

364. Fresh meat. *To fry.*—To fry, a small amount of grease (1 to 2 spoonfuls) is necessary. Put the grease in mess pan and let come to a smoking temperature, then drop in the steak and, if about one-half inch thick, let fry for about one minute before turning—depending upon whether it is desired it shall be rare, medium, or well done. Then turn and fry briskly as before. Salt and pepper to taste.

Applies to beef, veal, pork, mutton, venison, etc.

365. Fresh meat. *To broil.*—Cut in slices about 1 inch thick, from half as large as the hand to four times that size. Sharpen a stick or branch of convenient length, say from 2 to 4 feet long, and weave the point of the stick through the steak several times so that it may be readily turned over a few brisk coals or on the windward side of a small fire. Allow to brown nicely, turning frequently. Salt and pepper to taste. Meat with considerable fat is preferred, though any meat may be broiled in this manner.

366. Fresh meat. *To stew.*—Cut into chunks from one-half inch to 1 inch cubes. Fill cup about one-third full of meat and cover with about 1 inch of water. Let boil or simmer about one hour or until tender. Add such fibrous vegetables as carrots, turnips, or cabbage, cut into small chunks, soon after the meat is put on to boil, and potatoes, onions, or other tender vegetables when the meat is about half done. Amount of vegetables to be added, about the same as meat, depending

upon supply and taste. Salt and pepper to taste. Applies to all fresh meats and fowls. The proportion of meat and vegetables used varies with their abundance and fixed quantities can not be adhered to. Fresh fish can be handled as above, except that it is cooked much quicker, and potatoes, onions, and canned corn are the only vegetables generally used with it, thus making a chowder. A slice of bacon would greatly improve the flavor. May be conveniently cooked in mess pan or tin cup.

Fresh Vegetables

367. Potatoes, fried. Take two medium-sized potatoes or one large one (about one-half pound), peel and cut into slices about one-fourth inch thick and scatter well in the mess pan in which the grease remains after frying the bacon. Add sufficient water to half cover the potatoes, cover with the lid to keep the moisture in, and let come to a boil from fifteen to twenty minutes. Remove the cover and dry as desired. Salt and pepper to taste. During the cooking the bacon already prepared may be kept on the cover, which is most conveniently placed bottom side up over the cooking vegetables.

368. Onions, fried. Same as potatoes.

369. Potatoes, boiled. Peel two medium-sized potatoes or one large one (about one-half pound), and cut in course chunks of about the same size—say $1\frac{1}{2}$ -inch cubes. Place in mess pan and three-fourths fill with water. Cover with lid and let boil or simmer for fifteen or twenty minutes. They are done when easily penetrated with a sharp stick. Pour off the water and let dry out for one or two minutes over hot ashes or light coals.

370. Potatoes, baked. Take two medium-sized potatoes or one large one cut in half (about one-half pound). Lay in a bed of light coals, cover with same and smother with ashes. Do not disturb for thirty or forty minutes, when they should be done.

371. Rice. Take two-thirds of a cup of water and bring to a boil. Add 4 spoonfuls of rice and boil until soft, that is, until it can be mashed by the fingers with little resistance. This will require about 15 minutes. Add 2 pinches of salt and, after stirring, pour off the water and empty the rice out on the lid of the mess pan.

372. Canned Tomatoes. One 2 pound can is generally sufficient for five men.

Stew. Pour into the mess pan one man's allowance of tomatoes, add about two large hardtacks broken into small pieces, and let come to a boil. Add salt and pepper to taste, or add a pinch of salt and one-fourth spoonful of sugar.

Or, having fried bacon, pour the tomatoes into the mess pan, the grease remaining, and add, if desired, two broken hardtacks. Set over a brisk fire and let come to a boil.

Or, heat the tomatoes just as they come from the can, adding two pinches of salt and one-half spoonful of sugar if desired.

Or, especially in hot weather, eaten cold with hard bread they are very palatable.

Hot Breads

373. Flapjack. Take 6 spoonfuls of flour and one-third spoonful of baking powder and mix thoroughly (or dry mix in a large pan before issue, at the rate of 25 pounds of flour and three half-pound cans of baking powder for 100 men). Add sufficient cold water to make a batter that will drip freely from the spoon, adding a pinch of salt. Pour into the mess pan, which should contain the grease from fried bacon, or a spoonful of butter or fat, and place over a medium hot coals sufficient to bake so that in from five to seven minutes the flapjack may be turned over by a quick toss of the pan. Fry from five to seven minutes longer or until, by examination, it is found to be done.

374. Hoecake. Hoecake is made exactly the same as a flapjack by substituting *corn meal* for *flour*.

Drinks

375. Coffee. Fill cup about two-thirds full of water and when it boils add 1 heaping spoonful of coffee, and let boil 5 minutes. Stir grains well when adding. Add 1 spoonful of sugar, if desired. Let simmer ten minutes after boiling. Settle with a dash of cold water or let stand for a few minutes.

376. Tea. Fill cup about two-thirds full of water and when it boils add $\frac{1}{2}$ spoonful of tea, and let boil 5 minutes. Add 1 spoonful of sugar, if desired. Let stand or "draw" 8 minutes. If allowed to stand longer, the tea will get bitter, unless separated from the grounds.

377. Cocoa. Fill cup about two thirds full of water and when it boils add 1 heaping teaspoonful of cocoa and let boil 5 minutes. Stir when adding until dissolved. Add 1 $\frac{1}{2}$ spoonful of sugar, if desired. Let cool. (If available, milk should be used instead of water, and should be kept somewhat below the boiling point. A 1-pound can of evaporated milk with 3 $\frac{1}{2}$ quarts of water will make 1 gallon of milk of the proper consistency for making cocoa or chocolate.)

378. Chocolate. Same as cocoa, using 1 cubic inch of chocolate

Emergency Ration

379. Emergency Rations. Detailed instructions as to the manner of preparing the emergency rations are found on the label with each can. Remember that even a very limited amount of bacon or hard bread, or both, taken with the emergency ration makes it far more palatable, and greatly extends the period during which it can be consumed with relish. For this reason it would be better to husband the supply of hard bread and bacon to use with the emergency ration when it becomes evident that the latter must be consumed, rather than to retain the emergency ration to the last extremity to be used exclusively for a longer period than two or three days.

CHAPTER XVIII

MAP READING

380. Definition of map. A map is a representation on paper of a certain portion of the earth's surface.

A military map is one that shows the things which are of military importance, such as roads, streams, bridges, houses, depressions, and hills.

381. Map reading. By map reading is meant the ability to get a clear idea of the ground represented by the map,—of being able to *visualize* the ground so represented.

For some unknown reason, military map reading is generally considered a very difficult matter to master, and the beginner, starting out with this idea, seemingly tries to find it difficult.

However, as a matter of fact, map reading is not difficult, if one goes about learning it in the right way,—that is, by first becoming familiar with scales, contours, conventional signs, and other things that go to make up map making.

Practice is most important in acquiring ability in map reading. Practice looking at maps and then *visualizing* the actual country represented on the map.

382. Scales. In order that you may be able to tell the distance between any two points on a map, the map must be drawn to scale,—that is, it must be so drawn that a certain distance on the map, say, one inch, represents a certain distance on the ground, say one mile. On such a map, then, two inches would represent two miles on the ground; three inches, three miles, and so on. Therefore, we may say—

The scale of a map is the ratio between actual distances on the ground and those between the same points are represented on the map.

383. Methods of representing scales. There are three ways in which the scale of a map may be represented:

1st. By words and figures, as 3 inches = 1 mile; 1 inch = 200 feet.

2nd. By Representative Fraction (abbreviated R. F.), which is a fraction whose numerator represents units of distance on the map and whose denominator, units of distance on the ground.

For example, $R. F. = \frac{1 \text{ inch (on map)}}{1 \text{ mile (on ground)}}$ which is equivalent to R. F. =

$1/63,360$, since 1 mile = 63,360 inches. So the expression, "R. F. $1/63,360$ " on a map merely means that 1 inch on the map represents 63,360 inches (or 1 mile) on the ground. This fraction is usually written with a numerator 1, as above, no definite unit of inches or miles being specified in either the numerator or denominator. In this case the expression means that one unit of distance on the map equals as many of the same units on the ground as are in the denominator. Thus, $1/63,360$ means that 1 inch on the map = 63,360 inches on the ground, 1 foot on the map = 63,360 feet on the ground; 1 yard on the map = 63,360 yards on the ground, etc.

3d. By Graphical Scale, that is, a drawn scale. A graphical scale is a line drawn on the map, divided into equal parts, each part being marked not with its actual length, but with the distance which it represents on the ground. Thus:



Fig. 1

For example, the distance from 0 to 50 represents fifty yards on the ground; the distance from 0 to 100, one hundred yards on the ground, etc.

If the above scale were applied to the road running from A to B in Fig. 2, it would show that the length of the road is 675 yards.



Fig. 2

384. Construction of Scales. The following are the most usual problems that arise in connection with the construction of scales:

1. Having given the R. F. on a map, to find how many miles on the ground are represented by one inch on the map. Let us suppose that the R. F. is $1/21,120$.

Solution

Now, as previously explained, $1/21,120$ simply means that one inch on the map represents 21,120 inches on the ground. There are 63,360 inches in one mile. 21,120 goes into 63,360 three times—that is to say, 21,120 is $\frac{1}{3}$ of 63,360, and we, therefore, see from this that one inch on the map represents $\frac{1}{3}$ of a mile on the ground and consequently it would take three inches on the map to represent one whole mile on the ground.

So we have this general rule: To find out how many miles one inch on the map represents on the ground, divide the denominator of the R. F. by 63,360.

2. Being given the R. F. to construct a graphical scale to read yards. Let us assume that $\frac{1}{21120}$ is the R. F. given—that is to say, one inch on the map represents 21,120 inches on the ground, but, as there are 36 inches in one yard, $21,120 \text{ inches} = \frac{21120}{36} \text{ yds.} = 586.66 \text{ yds.}$ —that is, one inch on the map represents 586.66 yds. on the ground. Now, suppose about a 6-inch scale is desired. Since one inch on the map = 586.66 yards on the ground, 6 inches (map) = $586.66 \times 6 = 3,519.96$ yards (ground). In order to get as nearly a 6-inch scale as possible to represent even hundreds of yards, let us assume 3,500 yards to be the total number to be represented by the scale. The question then resolves itself into this: How many inches on the map are necessary to represent 3,500 yards on the ground. Since, as we have seen, one inch (map) = 586.66 yards (ground), as many inches are necessary to show 3,500 yards as 586.66 is contained in 3,500; or $\frac{3500}{586.66} = 5.96$ inches.

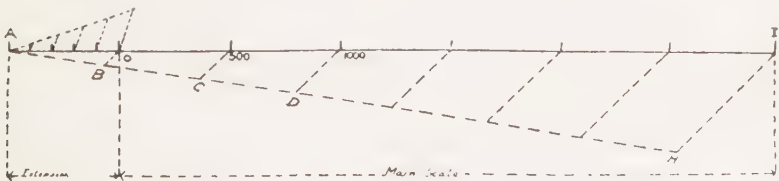


Fig. 3

Now lay off with a scale of equal parts the distance A-I (Figure 3) = 5.96 (about 5 and $9\frac{1}{2}$ tenths), and divide it into 7 equal parts by the construction shown in figure, as follows: Draw a line A-H, making any convenient angle with A-I, and lay off 7 equal convenient lengths (A-B, B-C, C-D, etc.), so as to bring H about opposite to I. Join H and I and draw the intermediate lines through B, C, etc., parallel to H-I. These lines divide A-I into 7 equal parts, each 500 yards long. The left part, called the Extension, is similarly divided into 5 equal parts, each representing 100 yards.

3. **To construct a scale for a map with no scale.** In this case, measure the distance between any two definite points on the ground represented, by pacing or otherwise, and scale off the corresponding map distance. Then see how the distance thus measured corresponds with the distance on the map between the two points. For example, let us suppose that the distance on the ground between two given points is one

mile and that the distance between the corresponding points on the map is $\frac{3}{4}$ inch. We would, therefore, see that $\frac{3}{4}$ inch on the map = one mile on the ground. Hence $\frac{1}{4}$ inch would represent $\frac{1}{3}$ of a mile, and 4-4, or one inch, would represent $4 \times \frac{1}{3} = 4.3 = 1\frac{1}{3}$ miles.

The R. F. is found as follows:

$$\text{R. F. } \frac{1 \text{ inch}}{1\frac{1}{3} \text{ mile}} = \frac{1 \text{ inch}}{63,360 \times 1\frac{1}{3} \text{ inches}} = \frac{1}{84,480}.$$

From this a scale of yards is constructed as above (2).

4. To construct a graphical scale from a scale expressed in unfamiliar units. There remains one more problem, which occurs when there is a scale on the map in words and figures, but it is expressed in unfamiliar units, such as the meter (= 39.37 inches), strides of a man or horse, rate of travel of column, etc. If a noncommissioned officer should come into possession of such a map, it would be impossible for him to have a correct idea of the distances on the map. If the scale were in inches to miles or yards, he would estimate the distance between any two points on the map to be so many inches and at once know the corresponding distance on the ground in miles or yards. But suppose the scale found on the map to be one inch = 100 strides (ground), then estimates could not be intelligently made by one unfamiliar with the length of the stride used. However, suppose the stride was 60 inches long; we would then have this: Since 1 stride = 60 inches, 100 strides = 6,000 inches. But according to our supposition, 1 inch on the map = 100 strides on the ground; hence 1 inch on the map = 6,000 inches on the ground, and we have as

our R. F. $\frac{1 \text{ inch (map)}}{6,000 \text{ inches (ground)}} = \frac{1}{6000}$. A graphical scale can now be constructed as in (2).

385.

Problems in Scales

The following problems should be solved to become familiar with the construction of scales:

Problem No. 1. The R. F. of a map is $\frac{1}{1000}$. Required: 1. The distance in miles shown by one inch on the map; 2. To construct a graphical scale of yards; also one to read miles.

Problem No. 2. A map has a graphical scale on which 1.5 inches reads 500 strides. 1. What is the R. F. of the map? 2. How many miles are represented by 1 inch?

Problem No. 3. The Leavenworth map in back of this book has a graphical scale and a measured distance of 1.25 inches reads 1,100 yards. Required: 1. The R. F. of the map; 2. Number of miles shown by 1 inch on the map.

Problem No. 4 1. Construct a scale to read yards for a map of R. F. = $\frac{1}{21120}$. 2. How many inches represent 1 mile?

386. Scaling distances from a map. There are four methods of scaling distances from maps:

1. Apply a piece of straight edged paper to the distance between any two points, A and B, for instance, and mark the distance on the paper. Now, apply the paper to the graphical scale, (Fig. 2, par. 383), and read the number of yards on the main scale and add the number indicated on the extension. For example: $600 + 75 = 675$ yards.

2. By taking the distance off with a pair of dividers and applying the dividers thus set to the graphical scale, the distance is read.

3. By use of an instrument called a map measurer, Fig. 4, set the hand on the face to read zero, roll the small wheel over the distance; now roll the wheel in an opposite direction along the graphical scale, noting the number of yards passed over. Or, having rolled over the distance, note the number of inches on the dial and multiply this by the number of miles or other units per inch. A map measurer is valuable for use in solving map problems in patrolling, advance guard, outpost, etc.

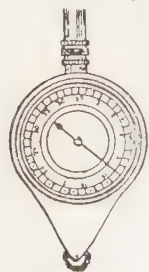


Fig. 4

4. Apply a scale of inches to the line to be measured, and multiply this distance by the number of miles per inch shown by the map.

387. Contours. In order to show on a map a correct representation of ground, the depressions and elevations,—that is, the undulations,—must be represented. This is usually done by *contours*.

Con conversationally speaking, a *contour* is the outline of a figure or body, or the line or lines representing such an outline.

In connection with maps, the word *contour* is used in these two senses:

1. It is a projection on a horizontal (level) plane (that is, a map) of the line in which a horizontal plane cuts the surface of the ground. In other words, it is a line on a map which shows the route one might follow on the ground and walk on the absolute level. If, for example, you went half way up the side of a hill and, starting there, walked entirely around the hill, neither going up any higher nor down any lower, and you drew a line of the route you had followed, this line would be a *contour line* and its projection on a horizontal plane (map) would be a *contour*.

By imagining the surface of the ground being cut by a number of horizontal planes *that are the same distance apart*, and then projecting (shooting) on a horizontal plane (map) the lines so cut, the elevations and depressions on the ground are represented on the map.

It is important to remember that the imaginary horizontal planes cutting the surface of the ground must be the same distance apart. The distance between the planes is called the *contour interval*.

2. The word *contour* is also used in referring to *contour-line*,—that is to say, it is used in referring to the line itself in which a horizontal plane cuts the surface of the ground as well as in referring to the projection of such line on a horizontal plane.

An excellent idea of what is meant by contours and contour-lines can be gotten from Figs. 5 and 6. Let us suppose that formerly the island represented in Figure 5 was entirely under water and that

Fig. 5



Fig. 6

by a sudden disturbance the water of the lake fell until the island stood twenty feet above the water, and later several other sudden falls of the water, twenty feet each time, occurred, until now the island stands 100 feet out of the lake, and at each of the twenty feet elevations a distinct water line is left. These water lines are perfect contour-lines measured from the surface of the lake as a reference (or datum) plane. Figure 6 shows the contour-lines in Figures 5 projected, or shot down, on a horizontal (level) surface. It will be observed that on the gentle slopes, such as F-H (Fig. 5), the contours (20, 40) are far apart. But on the steep slopes, as R-O, the contours (20, 40, 60, 80, 100) are close together. Hence, it is seen that contours far apart on a map indicate gentle slopes, and contours close together, steep slopes. It is also seen that the shape of the contours gives an accurate idea of the form of the island. The contours in Fig. 6 give an exact representation not only of the general form of the island, the two peaks, O and B, the stream, M-N, the Saddle, M, the water shed from F to H, and steep bluff at K, but they also give the slopes of the ground at all points. From this we see that the slopes are directly proportional to the nearness of the contours—that is, the nearer the contours on a map are to one another, the steeper is the slope, and the farther the contours on a map are from one another, the gentler is the slope. A wide space between contours, therefore, represents level ground.

The contours on maps are always numbered, the number of each showing its height above some plane called a datum plane. Thus in Fig. 6 the contours are numbered from 0 to 100 using the surface of the lake as the datum plane.

The numbering shows at once the height of any point on a given contour and in addition shows the contour interval—in this case 20 feet.

Generally only every fifth contour is numbered.

The datum plane generally used in maps is mean sea level, hence the elevations indicated would be the heights above mean sea level.

The contours of a cone (Fig. 7) are circles of different sizes, one within another, and the same distance apart, because the slope of a cone is at all points the same.

The contours of a half sphere (Fig. 8), are a series of circles, far apart near the center (top), and near together at the outside (bottom), showing that the slope of a hemisphere varies at all points, being nearly flat on top and increasing in steepness toward the bottom.

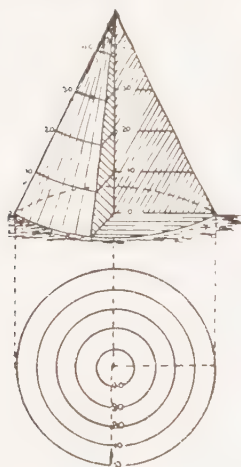


Fig. 7

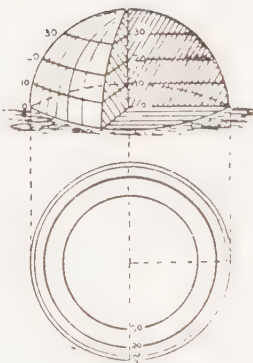


Fig. 8

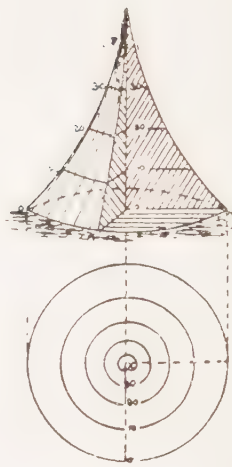


Fig. 9

The contours of a concave (hollowed out) cone (Fig. 9) are close together at the center (top) and far apart at the outside (bottom).

The following additional points about contours should be remembered:

(a) A Water Shed or Spur, along with rain water divides, flowing away from it on both sides, is indicated by the higher contours bulging out toward the lower ones (F-H, Fig. 6).

(b) A Water Course or Valley, along which rain falling on both sides of it joins in one stream, is indicated by the lower contours curving in toward the higher ones (M-N, Fig. 6).

(c) The contours of different heights which unite and become a single line, represent a vertical cliff (K, Fig. 6).

(d) Two contours which cross each other represent an overhanging cliff.

(e) A closed contour without another contour in it, represents either an elevation or a depression, depending on whether its reference number is greater or smaller than that of the outer contour. A hilltop is shown when the closed contour is higher than the contour next to it; a depression is shown when the closed contour is lower than the one next to it.

If the student will first examine the drainage system, as shown by the courses of the streams on the map, he can readily locate all the valleys, as the streams must flow through valleys. Knowing the valleys, the ridges or hills can easily be placed, even without reference to the numbers on the contours.

For example: On the Elementary Map, Woods Creek flows north and York Creek flows south. They rise very close to each other and the ground between the points at which they rise must be higher ground, sloping north on one side and south on the other, as the streams flow north and south, respectively (see the ridge running west from Twin Hills).

The course of Sandy Creek indicates a long valley, extending almost the entire length of the map. Meadow Creek follows another valley, and Deep Run another. When these streams happen to join other streams, the valleys must open into each other.

388. Map Distances (or horizontal equivalents). The horizontal distance between contours on a map (called map distance, or M. D.; or horizontal equivalents or H. E.) is inversely proportional to the slope of the ground represented—that is to say, the greater the slope of the ground, the less is the horizontal distance between the contours; the less the slope of the ground represented, the greater is the horizontal distance between the contours.

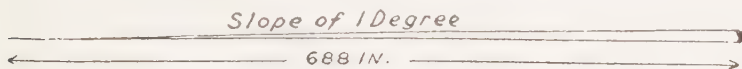


Fig. 10

Slope (degrees)	Rise (feet)	Horizontal Distance (inches)
1 deg.	1	688
2 deg.	1	$\frac{688}{2} = 344$
3 deg.	1	$\frac{688}{3} = 229$
4 deg.	1	$\frac{688}{4} = 172$
5 deg.	1	$\frac{688}{5} = 138$

It is a fact that 688 inches horizontally on a 1 degree slope gives a vertical rise of one foot; 1376 inches, two feet, 2064 inches, three feet, etc., from which we see that on a slope of 1 degree, 688 inches multiplied by vertical rises of 1 foot, 2 feet, 3 feet, etc., gives us the corresponding horizontal distance in inches. For example, if the contour interval (Vertical Interval, V. I.) of a map is 10 feet, then 688 inches x 10 equals 6880 inches, gives the horizontal ground distance corresponding to a rise of 10 feet on a 1 degree slope. To reduce this horizontal ground distance to horizontal map distance, we would, for example, proceed as follows:

Let us assume the R. F. to be 1/15840—that is to say, 15,840 inches on the ground equals 1 inch on the map, consequently, 6880 inches on the ground equals 6880/15840, equals .44 inch on the map. And in the case of 2 degrees, 3 degrees, etc., we would have:

$$\text{M. D. for } 2^{\circ} = \frac{6880}{15840 \times 2} = .22 \text{ inch};$$

$$\text{M. D. for } 3^{\circ} = \frac{6880}{15840 \times 3} = .15 \text{ inch, etc.}$$

From the above, we have this rule:

To construct a scale of M. D. for a map, multiply 688 by the contour interval (in feet) and the R. F. of the map, and divide the results by 1, 2, 3, 4, etc., and then lay off these distances as shown in Fig. 11, par. 389.

FORMULA

$$\text{M. D. (inches)} = \frac{688 \times \text{V. I. (feet)} \times \text{R. F.}}{\text{Degrees (1, 2, 3, 4, etc.)}}$$

389. Scale of Map Distances (or, Scale of Slopes). On the Elementary Map, below the scale of miles and scale of yards, is a scale similar to the following one:



M. D.

Fig. 11

The left-hand division is marked $\frac{1}{2}^{\circ}$; the next division (one-half as long) 1° ; the next division (one-half the length of the 1° division) 2° , and so on. The $\frac{1}{2}^{\circ}$ division means that where adjacent contours on the map are just that distance apart, the ground has a slope of $\frac{1}{2}$ a degree between these two contours, and slopes up toward the contour with the higher reference number; a space between ad-

jacent contours equal to the 1° space shown on the scale means a 1° slope, and so on.

What is a slope of 1° ? By a slope of 1° we mean that the surface of the ground makes an angle of 1° with the horizontal (a level surface). See Fig. 10, par. 388. The student should find out the slope of some hill or street and thus get a concrete idea of what the different degrees of slope mean. A road having a 5° slope is very steep.

By means of this scale of M. D.'s on the map, the map reader can determine the slope of any portion of the ground represented, that is, as steep as $\frac{1}{2}^\circ$ or steeper. Ground having a slope of less than $\frac{1}{2}^\circ$ is practically level.

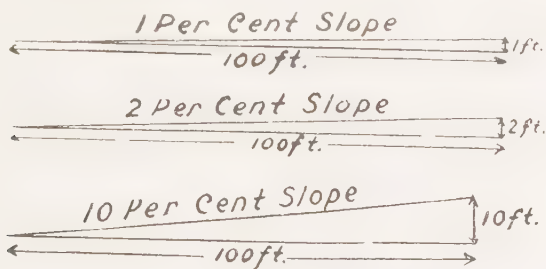


Fig. 12

390. Slopes. Slopes are usually given in one of three ways: 1st, in degrees; 2d, in percentages; 3d, in gradients (grades).

1st A one degree slope means that the angle between the horizontal and the given line is 1 degree (1°). See Fig. 10, par. 383.

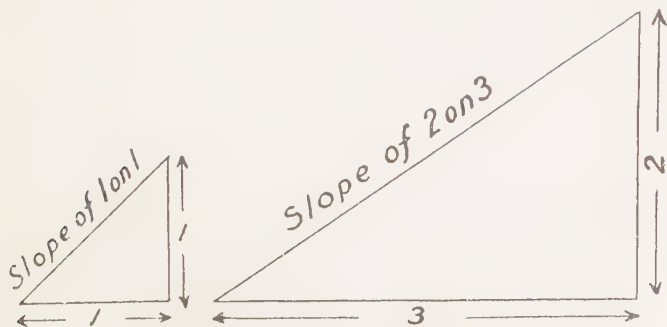


Fig. 13

2d A slope is said to be 1, 2, 3, etc., per cent, when 100 units horizontally correspond to a rise of 1, 2, 3, etc., units vertically.

3d A slope is said to be one on one ($\frac{1}{1}$), two on three, ($\frac{2}{3}$), etc., when one unit horizontal corresponds to one vertical; three horizontal correspond to two vertical, etc. The numerator usually refers to the vertical distance, and the denominator to the horizontal distance.

Degrees of slope are usually used in military matters; percentages are often used for roads, almost always of railroads; gradients are used of steep slopes, and usually of dimensions of trenches.

391. Effect of Slope on Movements

60 degrees or $\frac{3}{4}$ inaccessible for infantry;

45 degrees or $\frac{1}{2}$ difficult for infantry;

30 degrees or $\frac{1}{3}$ inaccessible for cavalry;

15 degrees or $\frac{1}{4}$ inaccessible for artillery;

5 degrees or $\frac{1}{12}$ accessible for wagons.

The normal system of scales prescribed for U. S. Army field sketches is as follows: For road sketches, 3 inches = 1 mile, vertical interval between contours (V. I.) = 20 ft.; for position sketches, 6 inches = 1 mile, V. I. = 10 ft.; for fortification sketches, 12 inches = 1 mile, V. I. = 5 ft. On this system any given length of M. D. corresponds to the same slope on each of the scales. For instance, .15 inch between contours represents a 5° slope on the 3-inch, 6-inch and 12-inch maps of the normal system. Figure 11, par. 389, gives the normal scale of M. D.'s for slopes up to 8 degrees. A scale of M. D.'s is usually printed on the margin of maps, near the geographical scale.

N



Fig. 14

392. Meridians If you look along the upper left hand border of the Elementary Map (back of book), you will see two arrows, as shown in Figure 14, pointing towards the top of the map.

They are pointing in the direction that is north on the map. The arrow with full barb points toward the north pole (the True North Pole) of the earth, and is called the True Meridian.

The arrow with but half a barb points toward what is known as the Magnetic Pole of the earth, and is called the Magnetic Meridian.

The Magnetic Pole is a point up in the arctic regions, near the geographical or True North Pole, which, on account of its magnetic qualities, attracts one end of all compass needles and causes them to point towards it, and

as it is near the True North Pole, this serves to indicate the direction of north to a person using a compass.

Of course, the angle which the Magnetic needle makes with the True Meridian (called The Magnetic Declination) varies at different points on the earth. In some places it points east of the True Meridian and in others it points west of it.

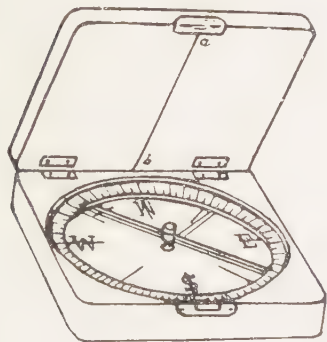


Fig. 15

It is important to know this relation because maps usually show the True Meridian and an observer is generally supplied with a magnetic compass. Fig. 15 shows the usual type of Box Compass. It has 4 cardinal points, N, E, S and W marked, as well as a circle graduated in degrees from zero to 360° , clockwise around the circle. To read the magnetic angle (called magnetic azimuth) of any point from the observer's position the north point of the compass circle is pointed toward the object and the angle indicated by the north end of the needle is read.

You now know from the meridians, for example, in going from York to Oxford (see Elementary Map) that you travel north; from Boling to Salem you must travel south; going from Salem to York requires you to travel west; and from York to Salem you travel east. Suppose you are in command of a patrol at York and are told to go to Salem by the most direct line across country. You look at your map and see that Salem is exactly east of York. Next you take out your field compass (Figure 15, par. 392), raise the lid, hold the box level, allow the needle to settle and see in what direction the north end of the needle points (it would point toward Oxford). You then know the direction of north from York, and you can turn to your right and go due east towards Salem.

Having once discovered the direction of north on the ground, you can go to any point shown on your map without other assistance. If you stand at York, facing north and refer to your map, you need no guide to tell you that Salem lies directly to your right; Oxford straight in front of you; Boling in a direction about halfway between the directions of Salem and Oxford, and so on.

393. Determination of positions of points on map. If the distance, height and direction of a point on a map are known with respect

to any other point, then the position of the first point is fully determined.

The scale of the map enables us to determine the distance; the contours, the height; and the time meridian, the direction.

Thus (see map in pocket at back of book), Pope Hill (sm') is 800 yards from Grant Hill (um') (using graphical scale), and it is 30 feet higher than Grant Hill, since it is on contour 870 and Grant Hill is on contour 840; Pope Hill is also due north of Grant Hill, that is, the north and south line through Grant Hill passes through Pope Hill. Therefore, the position of Pope Hill is fully determined with respect to Grant Hill.

Orientation

394. In order that directions on the map and on the ground shall correspond, it is necessary for the map to be oriented, that is, the true meridian of the map must lie in the same direction as the true meridian through the observer's position on the ground, which is only another way of saying that the lines that run north and south on the map must run in the same direction as the lines north and south on the ground. Every road, stream or other feature on the map will then run in the same direction as the road, stream or other feature itself on the ground, and all the objects shown on the map can be quickly identified and picked out on the ground.

Methods of Orienting a Map

1st. By magnetic needle:

If the map has a magnetic meridian marked on it as is on the Leavenworth map (in pocket at back of book), place the sighting line, a-b, of the compass (Fig. 15) on the magnetic meridian of the map and move the map around horizontally until the north end of the needle points toward the north of its circle, whereupon the map is oriented. If there is a true meridian on the map, but not a magnetic meridian; one may be constructed as follows, if the magnetic declination is known:

(Figure 16): Place the true meridian of the map directly under the magnetic needle of the

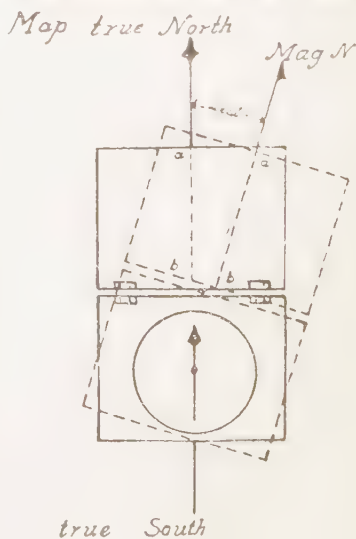


Fig. 16

compass and then move the compass box until the needle reads an angle equal to the magnetic declination. A line in extension of the sighting line $a'-b'$ will be the magnetic meridian. If the magnetic declination of the observer's position is not more than 4° or 5° , the orientation will be given closely enough for ordinary purposes by taking the true and magnetic meridians to be identical.

2d. If neither the magnetic nor the true meridian is on the map, but the observer's position on the ground is known: Move the map horizontally until the direction of some definite point on the ground is the same as its direction on the map; the map is then oriented. For example, suppose you are standing on the ground at 8, q k' (Fort Leavenworth Map), and can see the U. S. penitentiary off to the south. Hold the map in front of you and face toward the U. S. penitentiary, moving the map until the line joining 8 and the U. S. penitentiary (on the map) lies in the same direction as the line joining those two points on the ground. The map is now oriented.

Having learned to orient a map and to locate his position on the map, one should then practice moving over the ground and at the same time keeping his map oriented and noting each ground feature on the map as it is passed. This practice is of the greatest value in learning to read a map accurately and to estimate distances, directions and slopes correctly.

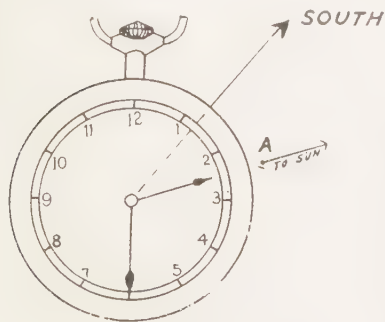


Fig. 17

True Meridian

395. The position of the true meridian may be found as follows (Fig. 17): Point the hour hand of a watch toward the sun; the line joining the pivot and the point midway between the hour hand and XII on the dial, will point toward the south; that is to say, if the observer stands so as to face the sun and the XII on the dial, he will be looking south. To point the hour hand exactly at the sun, stick a pin as at

(a) Fig. 17 and bring the hour hand into the shadow. At night, a line drawn toward the north star from the observer's position is approximately a true meridian.



Fig. 18

The line joining the "pointers" of the Great Bear or Dipper, prolonged about five times its length passes nearly through the North Star, which can be recognized by its brilliancy.

396. Conventional Signs. In order that the person using a map may be able to tell what are roads, houses, woods, etc., each of these features are represented by particular signs, called conventional signs.

In other words, conventional signs are certain marks or symbols shown on a map to designate physical features of the terrain. (See diagram, par 397, Plate I and II.) On the Elementary Map the conventional signs are all labelled with the name of what they represent. By examining this map the student can quickly learn to distinguish the conventional signs of most of the ordinary features shown on maps. These conventional signs are usually graphical representations of the ground features they represent, and, therefore, can usually be recognized without explanation.

For example, the roads on the Elementary Map can be easily distinguished. They are represented by parallel lines (=====). The student should be able to trace out the route of the Valley Pike, the Chester Pike, the County Road, and the direct road from Salem to Boling.

Private or farm lanes, and unimproved roads are represented by broken lines (== == ==). Such a road or lane can be seen running from the Barton farm to the Chester Pike. Another lane runs from the Mills farm to the same Pike. The small cross-marks on the road lines indicate barbed wire fences; the round circles indicate smooth wire; the small, connected ovals (as shown around the cemetery) indicate stone walls, and the zigzag lines (as shown one mile south of Boling) represent wooden fences.

Near the center of the map, by the Chester Pike, is an orchard. The small circles, regularly placed, give the idea of trees planted in regular rows. Each circle does not indicate a tree, but the area covered by the small circles does indicate accurately the area covered by the orchard on the ground.

Just southwest of Boling a large woods (Boling Woods) is shown. Other clumps of woods, of varying extent, are indicated on the map.

Trees		Streams	
<i>Isolated</i>	<i>Orchard</i>	<i>Under 15' wide</i>	
<i>Forest</i>	<i>Pine</i>	<i>Fordable</i>	
<i>Palm</i>	<i>Bamboo</i>	<i>Unfordable</i>	
<i>Bamboo</i>		<i>Infantry</i>	
		<i>Cavalry</i>	
		<i>Artillery</i>	
		<i>Sentry</i>	
		<i>Vidette</i>	
		<i>Hospital</i>	
		<i>Trench</i>	
		<i>Camp</i>	
Cultivated		Obstacles	
<i>Grass</i>	<i>Ploughed</i>	<i>Abatis</i>	
<i>Corn</i>	<i>Rice</i>	<i>Wire entanglement</i>	
<i>Vineyard</i>	<i>Cotton</i>	<i>Palisades</i>	
		<i>Demolitions</i>	
Railroads			
<i>Single Track</i>			
<i>Double Track</i>			
<i>Electric</i>			
Roads			
<i>Improved</i>			
<i>Unimproved</i>			
<i>Trail</i>			
<i>Church</i>			
<i>Postoffice</i>			
<i>Waterworks</i>			
Fences			
<i>Hedge</i>			
<i>Stone</i>			
<i>Worm</i>			
<i>Wire barbed</i>			
<i>Wire smooth</i>			
		<i>Depression</i>	
		<i>Cliffs</i>	
		<i>Ravine</i>	
		<i>Fill</i>	
		<i>Cut</i>	

PLATE I

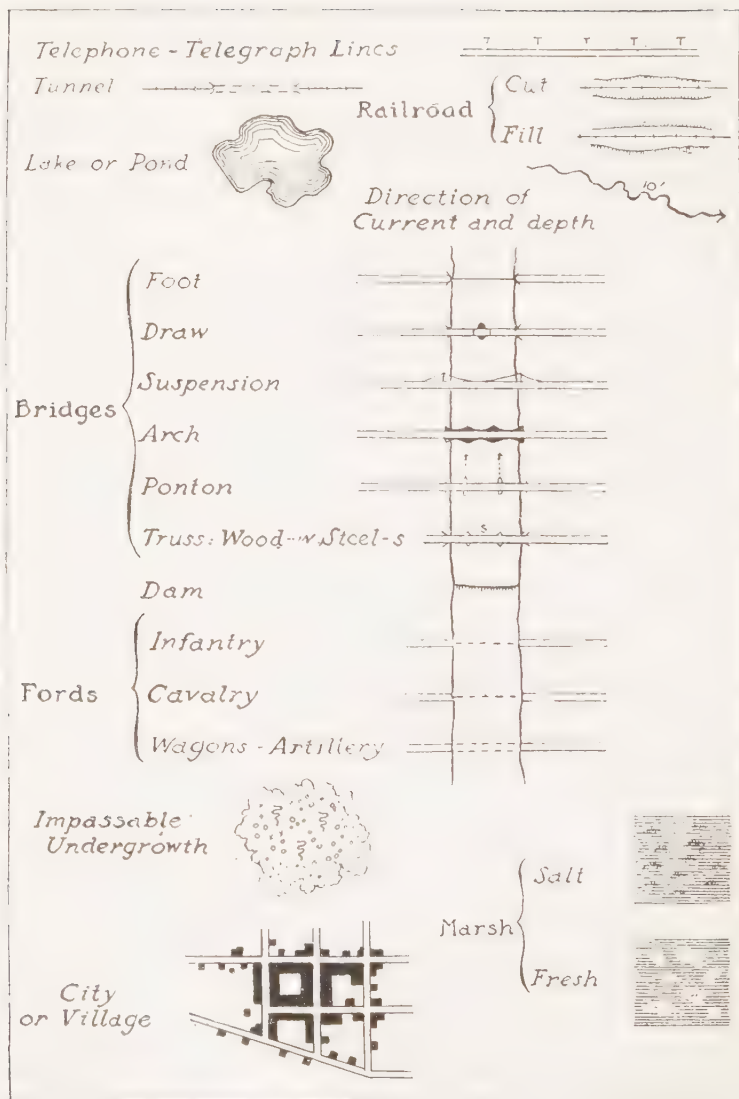


PLATE II

[324]

practical work with a map in the solution of map problems in patrolling.

In the solution of visibility problems, it is necessary that one should thoroughly understand the meaning of profiles and their construction. A profile is the line supposed to be cut from the surface of the earth by an imaginary vertical (up and down) plane. (See Fig. 21.) The representation of this line to scale on a sheet of paper is also called a profile. Figure 21 shows a profile on the line D-y (Figure 20) in which the horizontal scale is the same as that of the map (Figure 20) and the vertical scale is 1 inch = 40 feet. It is customary to draw a profile with a greater vertical than horizontal scale in order to make the slopes on the profile appear to the eye as they exist on the ground. Consequently, always note especially the vertical scale in examining any profile; the horizontal scale is usually that of the map from which the profile is taken.

A profile is constructed as follows: (Fig 21): Draw a line D'-y' equal in length to D-y on the map. Lay off on this line from D' distances equal to the distances of the successive contours from D on the map. At each of these contour points erect a perpendicular equal to the elevation of this particular contour as shown by the vertical scale (960, 940, 920, etc.) on the left. Join successively these verticals by a smooth curve, which is the required profile. Cross section paper with lines printed 1/10 inch apart horizontally and vertically simplifies the work of construction, by avoiding the necessity of laying off each individual distance.

398. Visibility Problem. To determine whether an observer with his eye at D can see the bridge at XX (Figure 20). By examining the profile it is seen that an observer, with his eye at D, looking along the line D-XX, can see the ground as far as (a) from (a) to (b), is hidden from view by the ridge at (a); (b) to (c) is visible; (c) to (d) is hidden by the ridge at (c). By thus drawing the profiles, the visibility of any point from a given point may be determined. The work may be much shortened by drawing the profile of only the observer's position (D) of the point in question, and of the probable obstructing points (a) and (c). It is evidently unnecessary to construct the profile from D to x, because the slope being concave shows that it does not form an obstruction.

The above method of determining visibility by means of a profile is valuable practice for learning slopes of ground, and the forms of the ground corresponding to different contour spacings.

Visibility of Areas

399. To determine the area visible from a given point the same method is used. First mark off as invisible all areas hidden by woods,

Fig. 20

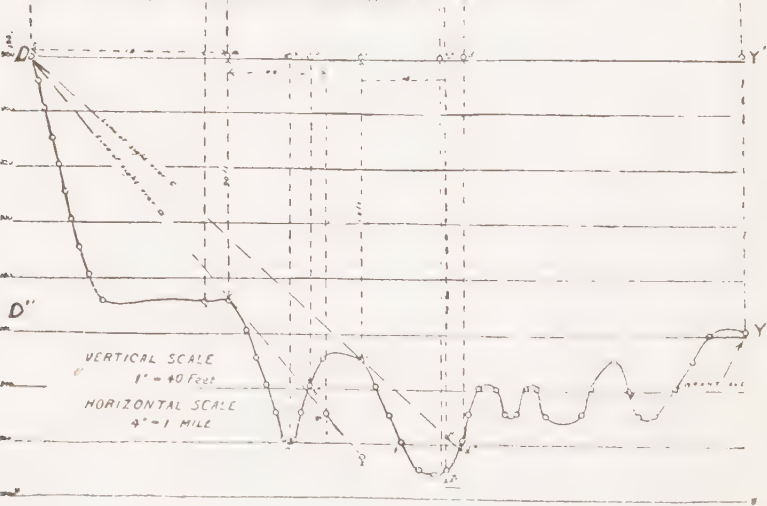


Fig. 21

buildings, high hills, and then test the doubtful points along lines such as D—XX, Figure 20. With practice the noncommissioned officer can soon decide by inspection all except the very close cases.

This method is a rapid approximation of the solution shown in the profile. In general it will not be practicable to determine the visibility of a point by this method closer than to say the line of sight pierces the ground between two adjoining contours.

CHAPTER XIX

MILITARY SKETCHING

(While this chapter presents the principal features of military sketching in a simple, clear manner, attention is invited to the fact that the only way that any one who has never done any sketching can follow properly the statements made, is to do so with the instruments and the sketching material at hand. In fact, the only way to learn how to sketch is *to sketch*.)

400. A military sketch is a rough map showing the features of the ground that are of military value.

Military sketching is the art of making such a military sketch.

Military sketches are of three kinds:

Position sketches, Fig 1;

Outpost sketches;

Road sketches.

All kinds of military sketches are intended to give a military commander detailed information of the ground to be operated over, when this is not given by the existing maps, or when there are no maps of the area.

The general methods of sketching are:

(1) The location of points by intersection.

(2) The location of points by resection.

401. Location of points by intersection. To locate a point by intersection proceed as follows: Set up, level and orient the sketching board (par. 394), at A, Fig. 1. The board is said to be oriented when the needle is parallel to the sides of the compass trough of the drawing board, Fig. 2. (At every station the needle must have this position, so that every line on the sketch will be parallel to the corresponding line or direction on the ground.) Assume a point (A) on the paper, Fig. 1 Y, in such a position that the ground to be sketched will fall on the sheet. Lay the ruler on the board and point it to the desired point (C), all the while keeping the edge of the ruler on the point (A), Fig. 1 Y. Draw an indefinite line along the edge. Now move to (B), Fig. 1 X, plotted on the map in (b), Fig. 1 X, and having set up, leveled and oriented as at (A), Fig. 1 Y, sight toward (C) as before. The intersection (crossing) of the two lines locates (C) on the sketch at (c), Fig. 1 X.

402. Locating points by resection. A sketcher at an unknown point may locate himself from two visible known points by setting up and orienting his sketching board. He then places his alidade (ruler) so that it points at one of the known points, keeping the edge of the alidade touching the corresponding point on the sketch. He then draws a ray

(line) from the point toward his eye. He repeats the performance with the other visible known point and its location on the map. The point where the rays intersect is his location. This method is called *resection*. However, local attractions for the compass greatly affect this method.

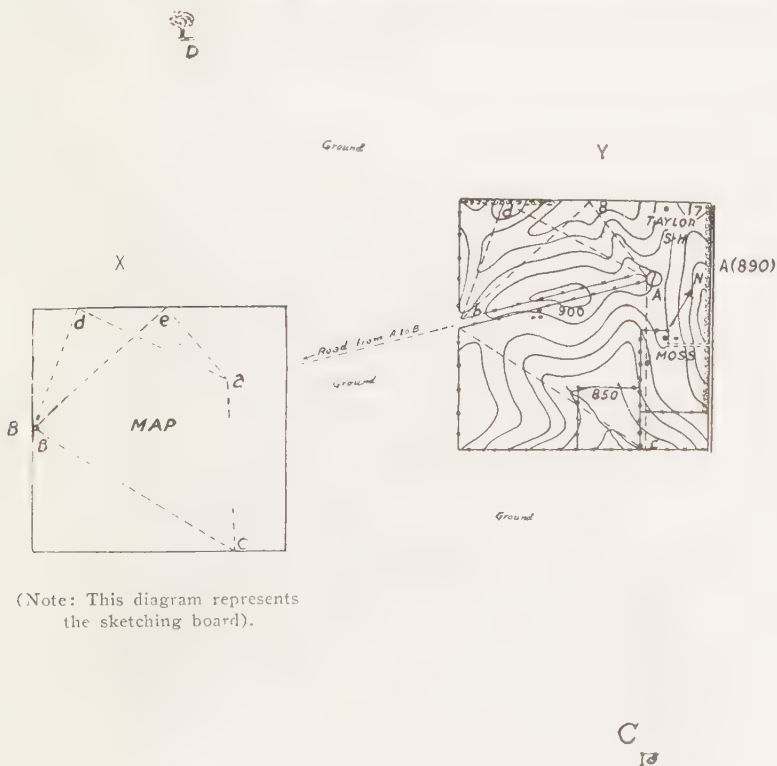


Fig. 1

403. The location of points by traversing. To locate a point by traversing is done as follows: With the board set up, leveled and oriented at A, Fig. 1 Y, as above, draw a line in the direction of the desired point B, Fig. 1 X, and then move to B, counting strides, keeping record of them with a tally register, Fig. 3, if one is available. Set up the board at B, Fig. 1 X, and orient it by laying the ruler along the line (a)-(b), Fig. 1 X, and moving the board until the ruler is directed toward A, Fig. 1 Y, on the ground; or else orient by the needle as at A

With the scale of the sketcher's strides on the ruler, lay off the number of strides found from A, Fig. 1 Y, to B, Fig. 1 X, and mark the point (b). Fig. 1 X. Other points, such as C, D, etc., would be located in the same way.

404. The determination of the heights of hills, shapes of the ground, etc., by contours. To draw in contours on a sketch, the following steps are necessary:

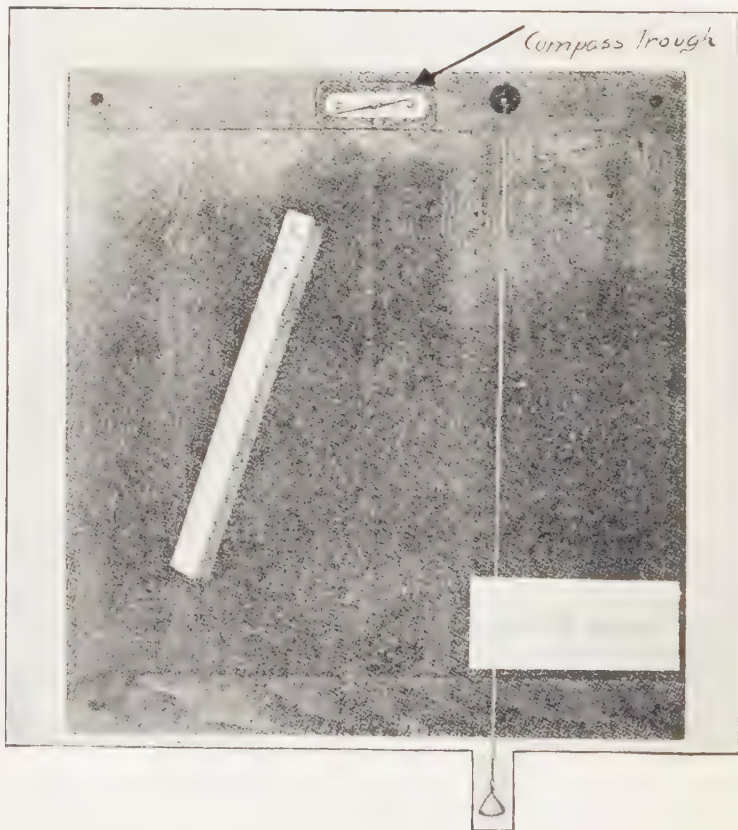


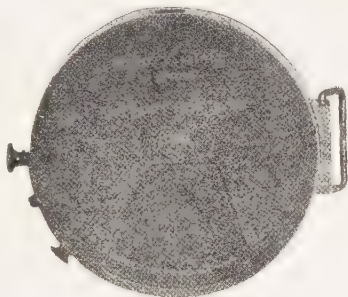
Fig. 2

(a) From the known or assumed elevation of a located station as A, Fig. 1 Y, (elevation 890), the elevations of all hill tops, stream junctures, stream sources, etc., are determined.

(b) Having found the elevations of these critical points the contours are put in by spacing them so as to show the slope of the ground along each line such as (a)-(b), (a)-(c), etc., Fig. 1 Y, as these slopes actually are on the ground.



(Tally Register)—Fig. 3



(Clinometer)—Fig. 4

To find the elevation of any point, say C (shown on sketch as c), proceed as follows:

Read the vertical angle with slope board, Fig. 2, or with a clinometer, Fig. 4. Suppose this is found to be 2 degrees; lay the scale of M. D.* (ruler, Fig. 2) along (a)-(c), Fig. 1 Y, and note the number of divisions of—2 degrees (minus 2°) between (a) and (c). Suppose there are found to be $5\frac{1}{2}$ divisions; then, since each division is 10 feet, the total height of A above C is 55 feet ($5\frac{1}{2} \times 10$). C is therefore 835 ft. elev. which is written at (c), Fig. 1 Y. Now looking at the ground along A-C, suppose you find it to be a very decided concave (hollowed out) slope, nearly flat at the bottom and steep at the top. There are to be placed in this space (a)-(c), Fig. 1 Y, contours 890, 880, 870, 860 and 850, and they would be spaced close at the top and far apart near (c), Fig. 1 Y, to give a true idea of the slope.

The above is the entire principle of contouring in making sketches and if thoroughly learned by careful repetition under different conditions, will enable the student to soon be able to carry the contours with the horizontal locations.

405. In all maps that are to be contoured some plane, called the *datum plane*, must be used to which all contours are referred. This plane

* Sheets of working scales reading in paces, strides, minutes, etc., at a scale of 3 and 6 inches of the mile, can be obtained at little cost from the Secretary, Army Service Schools, Fort Leavenworth, Kansas.

is usually mean sea level and the contours are numbered from this plane upward, all heights being elevations above mean sea level.

In a particular locality that is to be sketched there is generally some point the elevation of which is known. These points may be bench marks of a survey, elevation of a railroad station above sea level, etc. By using such points as the reference point for contours the proper elevations above sea level will be shown.

In case no point of known elevation is at hand the elevation of some point will have to be assumed and the contours referred to it.

Skill in contouring comes only with practice but by the use of expedients a fairly accurate contoured map can be made. In contouring an area the stream lines and ravines form a framework or skeleton on which the contours are hung more or less like a cobweb. These lines are accurately mapped and their slopes determined and the contours are then sketched in.

If the sketcher desires he may omit determining the slopes of the stream lines and instead determine the elevations of a number of critical points (points where the slope changes) in the area and then draw in the contours remembering that contours bulge downward on slopes and upward on streams lines and ravines.

If time permits both the slopes of the stream lines and the elevation of the critical points may be determined and the resulting sketch will gain in accuracy.

Figures 5, 6, 7, 8, and 9 show these methods of determining and sketching in contours.

406. Form lines. It frequently happens that a sketch must be made very hastily and time will not permit of contouring. In this case form lines are used. These lines are exactly like contours except that the elevations and forms of the hills and depressions which they represent are estimated and the sketcher draws the form lines in to indicate the varying forms of the ground as he sees it.

407. Scales. The Army Regulations prescribe a uniform system of scales and contour intervals for military maps, as follows:

Road sketches and extended positions; scale 3 inches to a mile, vertical (or contour) interval, 20 feet.

Position or outpost sketches; scale 6 inches to a mile, vertical (or contour) interval, 10 feet.

This uniform system is a great help in sketching as a given map distance, Par. 1867a, represents the same degree of slope for both the 3 inch to the mile or the 6 inch to the mile scale. The map distances once learned can be applied to a map of either scale and this is of great value in sketching.

Fig. 5

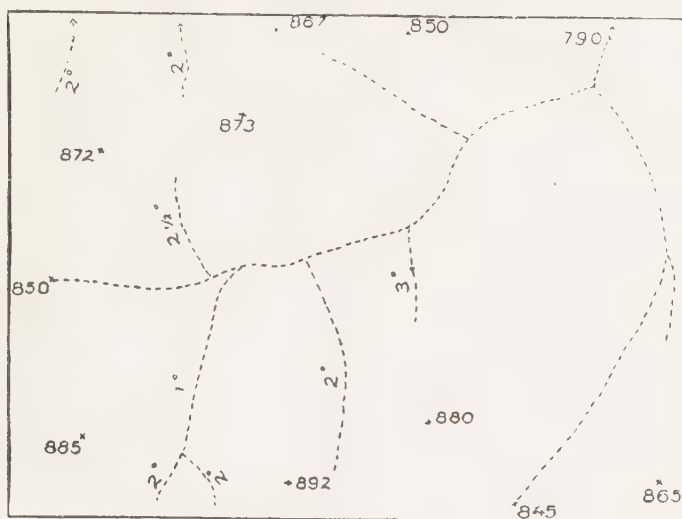


Fig. 6

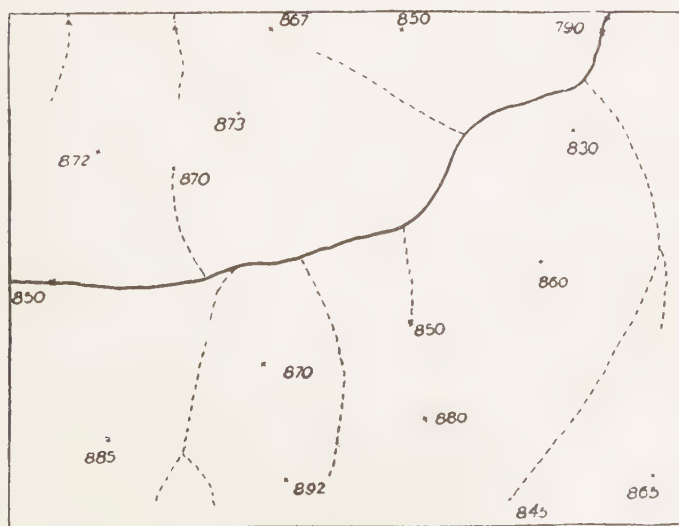


Fig. 7

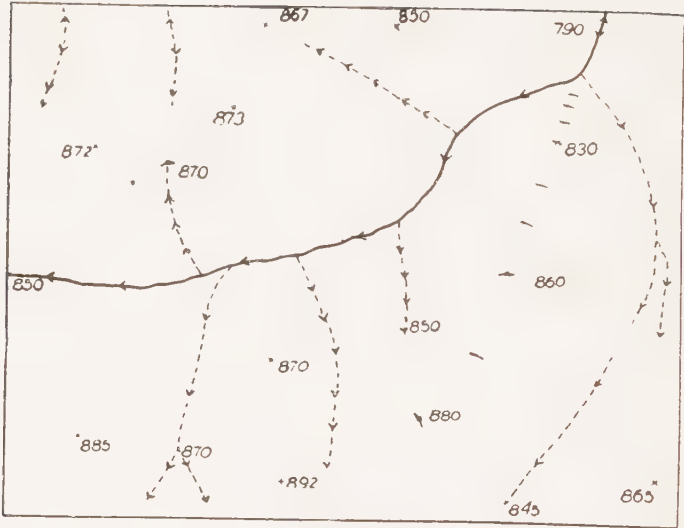
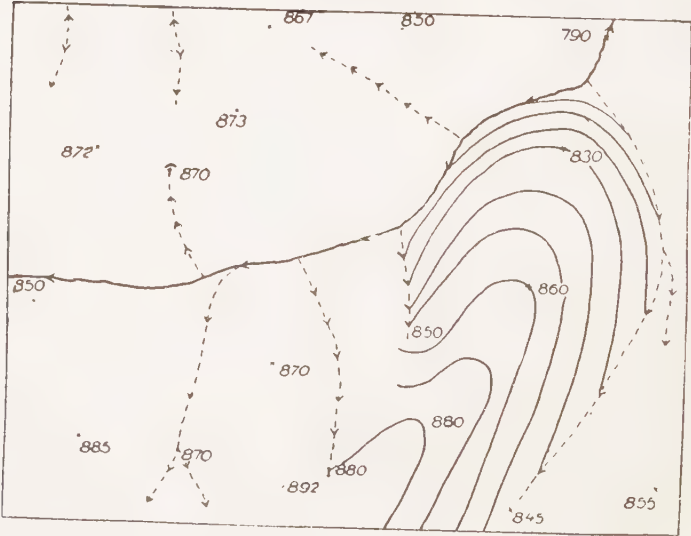


Fig. 8



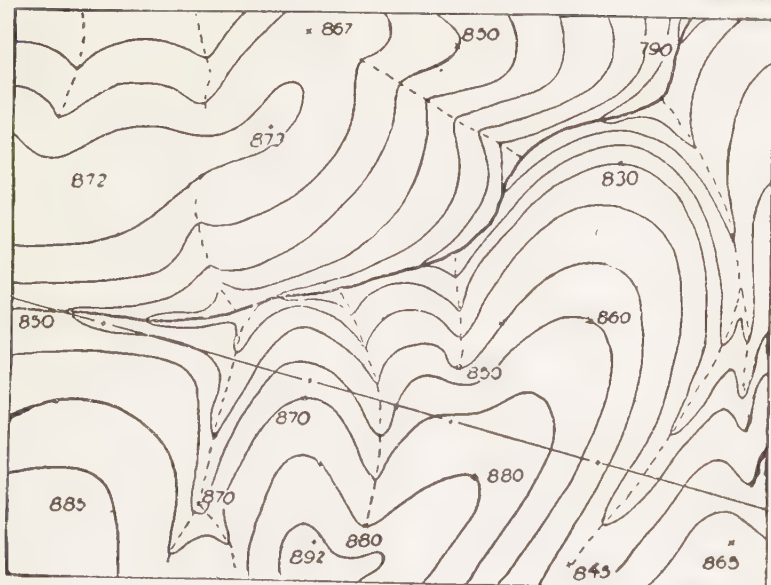


Fig. 9

Construction of Working Scales

408. Working scale. A *working scale* is a scale used in making a map. It may be a scale for paces or strides or revolutions of a wheel.

409. Length of pace. The length of a man's pace at a natural walk is about 30 inches, varying somewhat in different men. Each man must determine his own length of pace by walking several times over a known distance. In doing this be sure to take a natural pace. When you know your length of pace you merely count your paces in going over a distance and a simple multiplication of paces by length of pace gives your distance in inches.

In going up and down slopes one's pace varies. On level ground careful pacing will give you distances correct to within 3% or less.

The following tables give length of pace on slopes of 5 degrees to 30 degrees, corresponding to a normal pace on a level of 30.4 inches.

Slopes	0°	5°	10°	15°	20°	25°	30°
Length of step ascending.....	30.4	27.6	24.4	21.1	17.7	14.8	15.0
Length of step descending.....	30.4	28.3	27.6	26.4	23.6	19.7	

For the same person the length of step decreases as he becomes tired. To overcome this, ascertain the length of pace when fresh and when tired and use the first scale in the morning and the latter in the afternoon.

The result of the shortening of the pace due to fatigue or going over a slope, is to make the map larger than it should be for a given scale. This is apparent when we consider that we take more paces in covering a given distance than we would were it on a horizontal plane and we were taking our normal pace.

In going up or down a slope of 3 or 4 we actually walk 5 units, but cover only 4 in a horizontal direction. Therefore, we must make allowance when pacing slopes.

In counting paces count each foot as it strikes. In counting strides count only 1 foot as it strikes. A stride is two paces.

In practice it has been found that the scale of strides is far more satisfactory than a scale of paces.

410. How to make a scale of paces. Having determined the length of our pace, any one of the following three methods may be used in making a working scale:

1st method. The so-called "One thousand unit rule" method is as follows:

Multiply the R. F. (representative fraction) by the number of inches in the unit of measure multiplied by 1000; the result will be the length of line in inches necessary to show 1000 units.

For example, let us suppose that we desire a graphic scale showing 1000 yards, the scale of the map being 3 inches equal 1 mile:

Multiply $\frac{1}{21120}$ (R. F.) by 36 (36 inches in 1 yard, the unit of measure) by 1000,—that is,

$$\frac{1}{21120} \times 36 \times 1000 = \frac{36000}{21120} = 1.7046 \text{ inches.}$$

Therefore a line or graphic scale 1.7 inches in length will represent 1000 yards.

If we desire a working scale of paces at 3 inches to the mile, and we have determined that our pace is 31 inches long, we would have

$$\frac{1}{21120} \times 31 \times 1000 = \frac{31000}{21120} = 1.467 \text{ inches.}$$

We can now lay off this distance and divide it into ten equal parts, and each will give us a 100-pace division.

2nd method. Lay off 100 yards; ascertain how many of your paces are necessary to cover this distance; multiply R. F. by 7,200,000, and divide by the number of paces you take in going 100 yards. The result will be the length of line in inches which will show 2000 of your paces.

3rd method. Construct a scale of convenient length, about 6 inches, as described in Par. 1863, to read in the units you intend to measure your distance with (your stride, pace, stride of a horse, etc.), to the scale on which you intend to make your sketch.

For example, suppose your stride is 66 inches long (33-inch pace) and you wish to make a sketch on a scale of 3 inches = 1 mile.

The R. F. of this scale is $\frac{3 \text{ inches}}{1 \text{ mile}} = \frac{3 \text{ inches}}{63360 \text{ inches}} = \frac{1}{21120}$. That is 1 inch on your sketch is to represent 21120 inches on the ground. As you intend to measure your ground distances by counting your strides of 66 inches length 1 inch on the sketch will represent as many of your strides on the ground as 66 is contained into 21120 = 320 strides. For convenience in sketching you wish to make your scale about 6 inches long. Since 1 inch represents 320 strides, 6 inches will represent $6 \times 320 = 1,920$ strides. As this is an odd number, difficult to divide into convenient subdivisions of hundreds, fifties, etc., construct your scale to represent 2,000 strides, which will give it a length slightly in excess of 6 inches = 6.25. Lay off this length and divide it into ten main divisions of 200 strides each, and subdivide these into 50 stride divisions as explained in par. 383.

411. Position sketching. The following are the instruments used in position sketching:

1. Drawing board with attached compass (Fig. 2);
2. Loose ruler, on board (Fig. 2);
3. Rough tripod or camera tripod;
4. Scale of M. D.'s (shown on ruler, Fig. 2);
5. Scale of sketchers, strides or paces (at six inches to one mile), on ruler;
6. Clinometer (not necessary if board has slope board, Fig. 6);
7. Scale of hundreds of yards shown on ruler;
8. Scale of paces.

Methods to be used

(1) Select a base line,—that is, a central line $\frac{1}{4}$ to $\frac{1}{2}$ mile long in the area to be sketched. It should have at its ends some plainly marked objects, such as telegraph poles, trees, corners of buildings, etc., and from its ends, and intermediate points, a good view of the area should be possible. The base line selected should be capable of being measured.

(2) Set up, level and orient the drawing board at one end of the base (A), Fig. 1, Y, for example. Draw a meridian on the sheet parallel to the position of the magnetic needle. Assume a point (A), Fig. 1, Y, corresponding to the ground point (A), 800, on the sheet, in such a position that the area to be sketched will lie on the sheet.

(3) Sight at hilltops, stream junctures, stream heads, etc., to begin the locations of these points by intersection, labelling each ray so as to be able to identify it later.

(4) Traverse to (b) and complete the locations by intersection as previously explained. If the base line is not accurately measured, the map will be correct within itself in all of its proportions, but its scale will not necessarily be the scale desired.

(5) Draw the details of the country between A and B and in the vicinity of this line, using the conventional signs for roads, houses, etc.

(6) The lines from station (b), Fig. 1, X, to any of the other located points may now be used as a new base line to carry the work over additional area.

(7) In case parts of the area are not visible from a base line, these parts are located by traversing as before explained.

(8) Having learned by several repetitions the above steps, the sketcher will then combine contouring with his horizontal locations.

412. Outpost sketching. The same instruments are used as in position sketching, and so are the methods the same, except that the sketcher cannot advance beyond the outpost line, toward the supposed position of the enemy. It is often possible to select a measurable base line well in rear of the line of observation,—for instance, along the line of resistance. Secondary base lines may then be taken on or near the line of observation, from the extremities of which additional base lines may be selected, if necessary, and points toward the enemy's position located by intersection. Details are sketched in as in position sketching. For obvious reasons, no traversing should be done along the line of observation.

413. Road sketching. The following are the instruments used in road sketching:

1. Drawing board or sketching case;
2. Loose ruler;

3. Scale of strides, or paces, if made dismounted; scale of time trotting or walking, if mounted;
4. Scale of hundreds of yards, at three inches to 1 mile;
5. Scale of M. D.'s;
6. Slope board (if clinometer is not available).

Methods to be used

(1) At station 1, Fig. 10, orient the board as described in par. 1872, holding the board in the hands, in front of the body of the sketcher, who faces toward station 2.

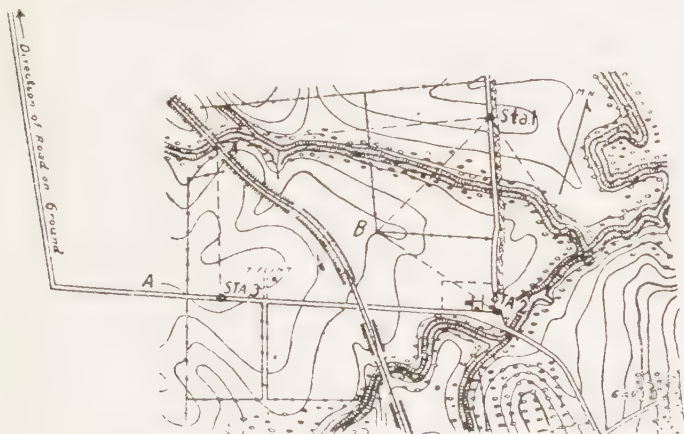


Fig. 10

(2) Important points in the vicinity, such as the railroad bridge, the stream juncture, hilltops, are sighted for intersections, lines drawn as shown and the sketcher traverses to station 2.

(3) At station 2 he locates and draws in all details between stations 1 and 2, to include about 300 yards on each side of the road.

(4) The traverse is then continued forward as described for 1 and 2.

(5) After some practice of horizontal sketching, as just described, the sketcher will be able to take up contouring in combination. The methods are as described in the paragraph on contouring.

(6) When the traverse runs off the paper as at A, Fig. 10, the following method is followed: Reorient the board so that the road forward will lie across the long dimensions of the paper; draw a meridian parallel to the compass needle and assume a point on the new sheet corresponding to the last point (A) plotted on the first sheet.

(7) On completion of the sketch various sections will be pasted together, so that all the meridians are parallel.

414. Combined sketching. Let us suppose that we have the rectangle W, X, Y, Z, Fig. 11, assigned to us to map and that we have been given four sketching parties, and that the locations and elevations of A and B have been previously determined by triangulation and are plotted to scale on our rectangle.

A logical step would be to carefully plot the line $a' b'$, and then the lines $c' c''$ and $c'' d$.

If the area is densely wooded we run "line of level" by using the slope board or clinometer and by taking elevations at points arbitrarily selected. Our lines will look something like this:

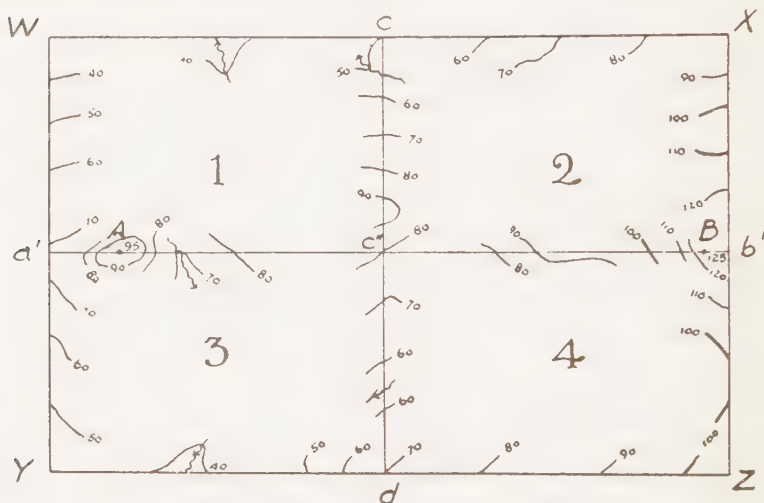


Fig. 11

Each party will be given its rectangle with the traverses sketched in. They will each then run similar traverses over the other two sides of their area and then fill in. In this manner the whole work is tied up to the original lines.

Another method

The line A B, Fig. 12, is carefully plotted. Each of the four sketching parties has two sketching groups. One group of party No. 1 traverses line $a' Y$; then the other group of the party traverses the line

$a'' y'$. The first group of party of No. 2 accompanies them. The second group of party No. 2 traverses the line $c'' d$, accompanied by the first group of party No. 3; the second group of party No. 3, and the first

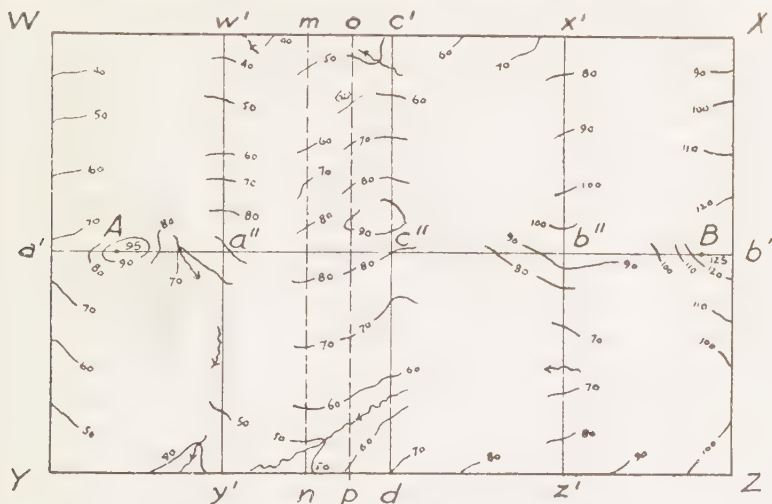


Fig. 17

group of party No. 4 traverse $b'' z'$, and the second group of party No. 4 traverses $b' Z$. When the first group of party No. 1 arrives at Y, it traverses Y y' . The second group of party No. 1, arriving at y' , cuts the sheet along traverse and gives the first group of party No. 2 the part which shows their area; and then traverses toward Y from y' . Upon meeting the first group of party No. 1, they join forces and proceed to fill in their area.

In the same manner areas W X $a' b'$ are filled in.

The method described above is useful in working over country which is densely wooded, and in which a general view cannot be obtained, for example, in mapping jungles.

An additional article of the sketcher's equipment is a holder for his pencils, alidade, eraser, knife, pins, etc. This consists of a series of small pockets sewed on to a piece of canvas about 7 inches by 4 inches. This can be attached to the left breast of the sketcher's coat or shirt by means of two pins. In addition to keeping all of his implements in a handy place the holder prevents the loss of the several articles. Nothing is so discouraging to the sketcher as to look for his pencil, eraser, knife or

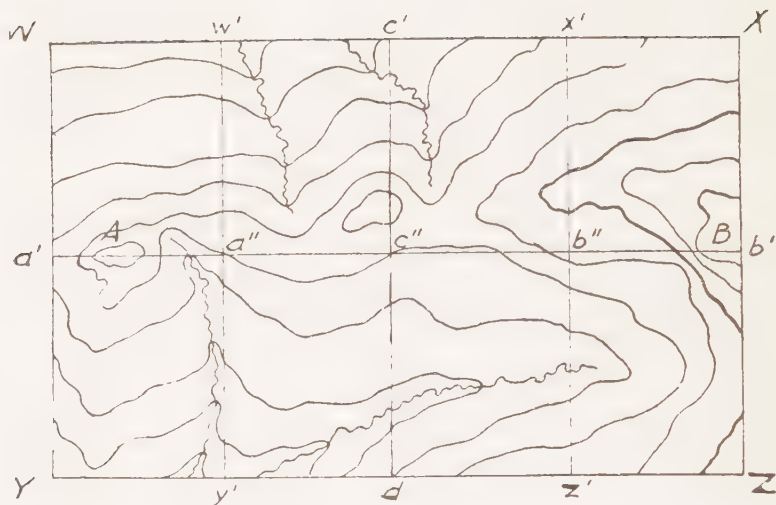


Fig. 13

even alidade and find that he has left it several hundred yards back where he sat down last to sketch in details. By using the holder the sketcher gets into the habit of replacing articles after they are used and consequently always has them with him when needed. These holders ready made can be obtained from the Secretary, Army Service Schools at Fort Leavenworth, Kansas.

In sketching a good quality of paper should always be used as erasures will be frequent. A specially prepared paper that has the appearance of oiled paper can be obtained commercially and is excellent for sketching in damp weather. It has considerable resistance to rain. Sheets of celluloid prepared for sketching are invaluable in sketching in the rain. These are a part of the equipment of the case of sketching instruments supplied battalions in the regular army. These sheets may be procured at most any dealers.

Points for Beginners to Remember

415. 1. Always keep your pencil sharpened and have an eraser handy. No one but an expert can sketch with a dull pencil.
2. Use hard pencils when learning to sketch—4H to 6H—and go over your work afterwards with a softer pencil—2H.
3. Do not try to put down on your sketch a mass of small details that are too small to be shown on the scale at which you are sketching.

For example, if you are making a sketch on a scale of 3 inches = 1 mile, do not try to show each house in a row of houses; simply indicate that there is a row of houses, by putting down several distinct conventional signs for houses in a row; nor should you try to show every little "cut" through which the road may run. Only use about one sign to the inch of telegraph or telephone lines, for wire fences, etc.

4. When first practicing sketching only plot the route over which you walk, indicating it by a single line. When you can do this with facility, go back over one of these plotted routes and fill in the woods, houses, streams and the other large features.

5. The beginner should sketch the same ground several times over—at least three or four times. Practice alone will make perfect.

6. Always try to compare your finished sketch with an accurate map of the ground, if one is obtainable. Try to practice on ground of which you can obtain a map.

7. Make each course (the distance you go between points where the direction of your route changes) as long as possible.

8. Do not try to contour until you are expert at making a sketch showing all the flat details (roads, streams, woods, houses, etc.)

9. Never try to "sketch in" the contours until you have plotted the stream lines or the direction of the valleys, ravines, etc. The contours are fitted to or sketched around the drainage system; not the drainage system to the contours.

10. Always "size up" ground before you sketch it; that is, take a general view of it, noticing the drainage system (the direction in which the streams flow or ravines run), the prominent hills and ridges, the direction the roads run, etc.

11. Above all things, DON'T FAKE ANY PART OF YOUR MAP. If the man using your map happens to strike the faked portion, he immediately condemns your whole map as incorrect. Every other part may be highly accurate, but your whole map is discredited because the user strikes the bad part first. You will naturally put little faith in the man who has told you something you know to be untrue. You will always suspect him. So it is with maps. Don't put down anything that you don't know to be correct. If any guess work is to be done, let the man using the map do it,—he knows that he is guessing and will be governed accordingly, but if you do the guessing, he doesn't know where the guessing begins and the accurate work leaves off. Don't fudge. Your name is on the map,—*don't have any questionable work hitched up to your name.*



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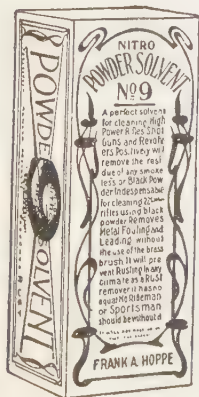
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